

Interchangeable Lens Digital Camera

α Handbook

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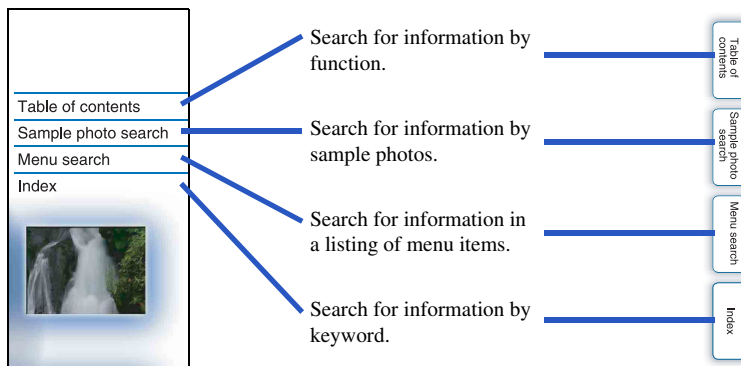


α

How to use this handbook

Click on a button at upper right on the cover and each page to jump to the corresponding page.

This is convenient when searching for a function you want to use.



You can jump to the pages by clicking on the page numbers mentioned in the book.

Marks and notations used in this handbook

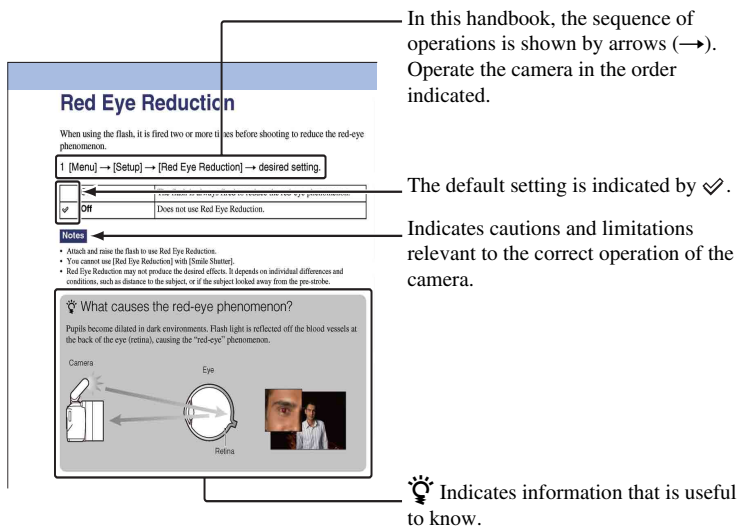


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Sample photo search

“This is the scene I want to capture in a photo, but how can I do?”

You may find the answer by going through the sample photos listed here. Click the desired sample photo.

Shooting people (page 6)

Shooting macro photos (page 7)

Shooting landscapes (page 8)

Shooting sunset/night views (page 9)

Shooting fast moving subjects (page 10)

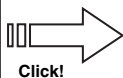
If you click on a photo, the screen will jump to the page describing the function recommended for shooting that kind of photo.

Refer to those descriptions in addition to the shooting tips displayed on the screen of the camera.

See the pages in parentheses for details of operation.



A happy smile (67)



Smile Shutter

When the camera detects a smile, the shutter is released automatically.

- 1 [Menu] → [Camera] → [Smile Shutter] → [On].
- 2 Wait for a smile to be detected.
When the smile level exceeds the ◀ point on the indicator, the camera records images automatically.
If you press the shutter button during Smile Shutter shooting, the camera shoots the image, then returns to Smile Shutter mode.
- 3 To exit Smile Shutter mode, [Menu] → [Camera] → [Smile Shutter] → [Off].

Notes

- You cannot use [Smile Shutter] with the following functions:
 - [Blast-hold Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Manual focus]
 - [Precision Obj. Zoom]
- Unless the subject is in focus, the shutter is not released, even if the smile level exceeds the ◀ point. Adjust the composition or brightness to enable the camera to focus easily.
- Shooting using the Smile Shutter ends automatically when the memory card becomes full.
- Smiles may not be detected correctly depending on the conditions.
- The drive mode turns to [Single-shot Adv.] automatically.

Tips for better capturing of smiles

- ① Do not cover the eyes with the bangs. Do not obscure the face by a hat, masks, sunglasses, etc.
- ② Try to orient the face in front of the camera and be as level as possible. Keep the eyes narrowed.
- ③ Give a clear smile with an open mouth. The smile is easier to be detected when the teeth are shown.

- The shutter operates when any person whose smile is detected.
- If a smile is not detected, set the [Smile Detection] in the menu.

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Shooting people



Only the main subject is in focus by defocusing the background (29)



The same scene with different brightness (59)



A happy smile (67)



In candle light (44)



A person in front of night view (40)



A moving person (76)



A group photo (57, 58)



A person lit from behind (60)



With soft skin tones (69)

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Shooting macro photos



Defocusing the background (29)



Adjusting the color to indoor light (77)



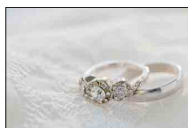
Flowers (40)



Lowering the amount of flash light (80)



Focusing manually (61)



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Preventing camera shake for indoor shots (76)



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The sky in vivid colors (36)



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Vivid green colors (83)



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Defocusing the background (29)



Keeping your shot level (98)

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Shooting sunset/night views



Holding the camera by hand (40)



Trail of light (60)



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The same scene in different brightness (59)



Preventing camera shake (57)



Shooting the red of the sunset beautifully (40)

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Shooting fast moving subjects



Following a moving subject (64)



Expressing vigorous action (51)



With the subject approaching the camera
(61)



Capturing the best moment (56)

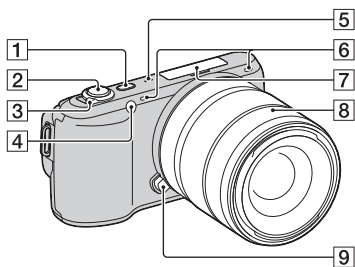
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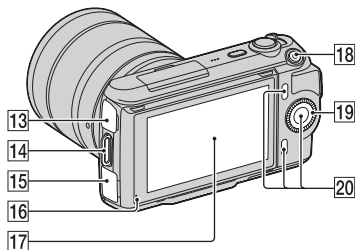
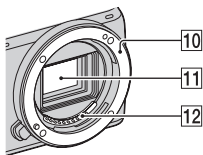
Menu search

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Identifying parts



When the lens is removed



See the pages in parentheses for details of operation.

1 (Playback) button (25)

2 Shutter button (23)

3 ON/OFF (Power) switch

4 AF illuminator/Self-timer lamp/Smile Shutter lamp

5 Speaker

6 Microphone*

7 Smart Accessory Terminal

8 Lens

9 Lens release button

10 Mount

11 Image sensor**

12 Lens contacts**

13 (USB) terminal (147)

14 Hook for shoulder strap

15 HDMI terminal (139)

16 Light sensor

17 LCD monitor

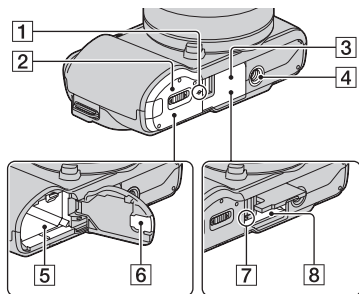
18 MOVIE button (23)

19 Control wheel (16)

20 Soft keys (17)

* Do not cover this part during movie recording.

** Do not touch this part directly.



1 Image sensor position mark (61)

2 Battery cover

3 Memory card cover

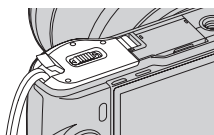
4 Tripod receptacle

- Use a tripod with a screw length of less than 5.5 mm (7/32 inch). You will be unable to firmly secure the camera to tripods having screws longer than 5.5 mm (7/32 inch), and may damage the camera.

5 Battery compartment

6 Connection plate cover

Use this when using an AC-PW20 AC Adaptor (sold separately). Insert the connection plate into the battery compartment, then pass the cord through the connection plate cover as shown below.

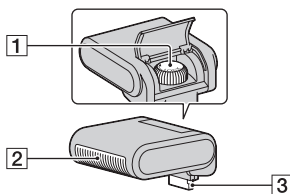


- Make sure that the cord is not pinched when you close the battery cover.

7 Access lamp

8 Memory card insertion slot

Flash



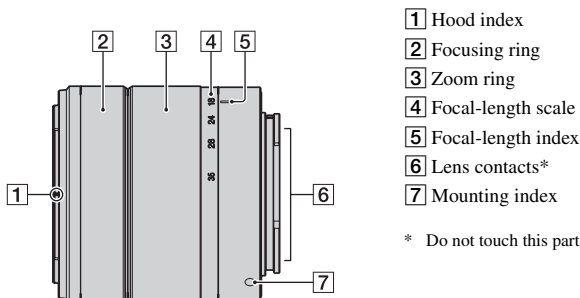
1 Screw

2 Flash*

3 Connector*

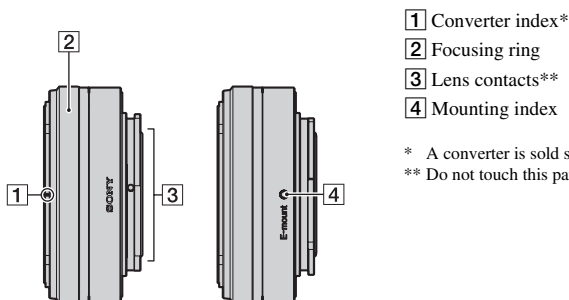
- * Do not touch this part directly.
If it is dirty, wipe it off with a soft clean cloth.

E18 – 55 mm F3.5-5.6 OSS (supplied with NEX-C3D/C3K/C3Y)



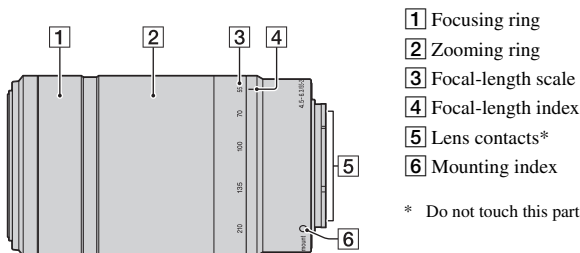
- 1 Hood index
 - 2 Focusing ring
 - 3 Zoom ring
 - 4 Focal-length scale
 - 5 Focal-length index
 - 6 Lens contacts*
 - 7 Mounting index
- * Do not touch this part directly.

E16 mm F2.8 (supplied with NEX-C3A/C3D)



- 1 Converter index*
 - 2 Focusing ring
 - 3 Lens contacts**
 - 4 Mounting index
- * A converter is sold separately.
** Do not touch this part directly.

E55 – 210 mm F4.5-6.3 OSS (supplied with NEX-C3Y)



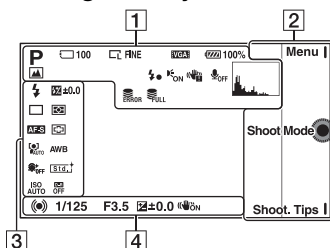
- 1 Focusing ring
 - 2 Zooming ring
 - 3 Focal-length scale
 - 4 Focal-length index
 - 5 Lens contacts*
 - 6 Mounting index
- * Do not touch this part directly.

List of icons on the screen

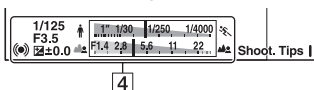
Icons are displayed on the screen to indicate the camera status.

You can change the screen display using DISP (Display Contents) on the control wheel (page 34).

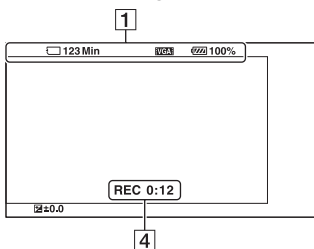
Shooting standby



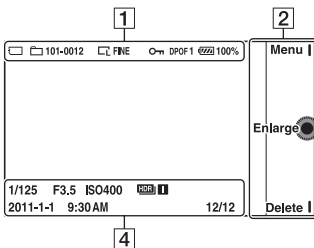
Graphic display



Movie recording



Playback



1

Display	Indication
	Shoot Mode
	Scene Selection
	Picture Effect
	Image size/Aspect ratio of still images
	Image quality of still images
	Number of recordable still images
	Image size of movies
	Memory card/Upload
	Recordable time of movies
	Remaining battery
	Scene Recognition icons
	Flash charge in progress
	AF illuminator

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Display	Indication
	Does not record sound during movie recording
	Camera shake warning
	Overheating warning
	Database file full/ Database file error
	Histogram
	Still image/Movie
101-0012	Playback folder – File number
	Protect
DPOF 1	Print order and number of copies

2

Display	Indication
Menu	Soft keys
Shoot Mode	
Shoot. Tips	

3

Display	Indication
	Flash Mode/Red Eye Reduction
	Drive Mode
	Focus mode
	Flash compensation
	Metering Mode
	Focus area mode
	Face Detection

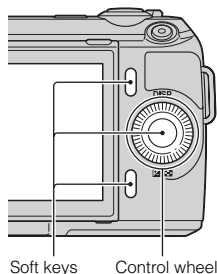
Display	Indication
	Soft Skin Effect
ISO AUTO	ISO
AWB	White Balance
7500K G9	
	Creative Style
	DRO/Auto HDR
	Smile detection sensitivity indicator

4



Display	Indication
	Focus status
1/125	Shutter speed
F3.5	Aperture value
ISO400	ISO sensitivity
±0.0	Metered manual
±0.0	Exposure compensation
	Shutter speed indicator
	Aperture indicator
REC 0:12	Recording time of the movie (m:s)
2011-1-1 9:30AM	Recorded date/time of the image
12/12	Image number/Number of images recorded in the date or selected folder
	SteadyShot
HDR	Appears when HDR did not work on the image.

Using the control wheel and soft keys

The control wheel and soft keys allow you to use various functions of the camera.

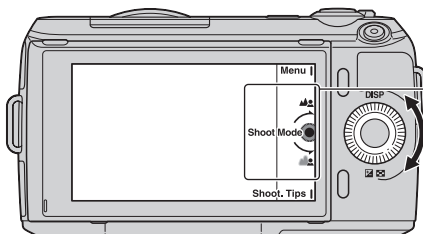


Control wheel

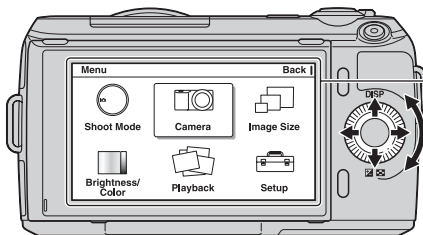
When shooting, DISP (Display Contents) and  (Exposure Comp.) functions are assigned to the control wheel. When playing back, DISP (Display Contents) and  (Image Index) functions are assigned to the control wheel.

You can assign the functions to the right/left keys on the control wheel (pages 109 and 110).

When you turn or press the right/left/top/bottom parts of the control wheel following the on-screen display, you can select setting items. Your selection is determined when you press the center of the control wheel.



The arrow means you can turn the control wheel.



When options are displayed on the screen, you can browse through them by turning or pressing the top/bottom/left/right parts of the control wheel. Press the center to make your choice.

Soft keys

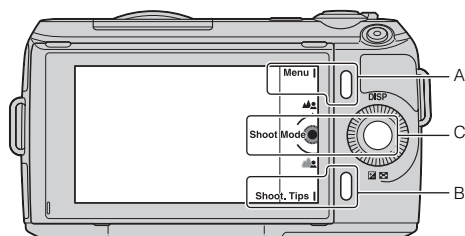
The soft keys have different roles, depending on the context.

The assigned role (function) of each soft key is shown on the screen.

To use the function shown at the upper right corner of the screen, press soft key A. To use the function shown at the lower right corner of the screen, press soft key B. To use the function shown at the center, press the center of the control wheel (soft key C).

You can assign the functions to the soft keys B and C (pages 111 and 112).

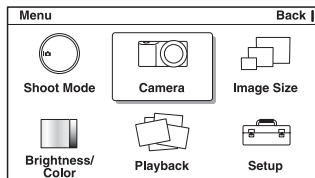
In this handbook, the soft keys are indicated by the icon or the function shown on the screen.



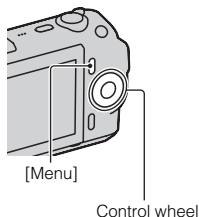
In this case, soft key A works as the [Menu] button, and soft key B as the [Shoot. Tips] button. Soft key C works as the [Shoot Mode] button.

Menu search

You can set up the basic settings for the camera as a whole, or execute functions such as shooting, playback, or other operations.



- 1 Press [Menu].
- 2 Select the desired item by pressing the top/bottom/left/right parts of the control wheel, and then press the center.
- 3 Following the instructions on the screen, select the desired item and press the center of the control wheel to make your choice.



Shoot Mode

Allows you to select a shooting mode, such as exposure mode, panoramic, Scene Selection.

Intelligent Auto	The camera evaluates the subject and makes the proper settings. You can enjoy automatic shooting with the appropriate settings.
Scene Selection	Shoots with preset settings according to the subject or condition.
Picture Effect	Shoots with the desired effects to express a unique atmosphere.
Anti Motion Blur	Reduces the camera shake when shooting a slightly dark indoor scene or a telephoto.
Sweep Panorama	Shoots with panoramic size.
3D Sweep Panorama	Shoots 3D panoramic images used for playback on a 3D compatible TV.
Manual Exposure	Adjusts the aperture and shutter speed.
Shutter Priority	Adjusts the shutter speed to express the movement of the subject.
Aperture Priority	Adjusts the range in focus, or defocuses the background.

Program Auto	Automatic shooting that allows you to customize settings, except for the exposure (shutter speed and aperture).
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Camera

Allows you to set shooting functions, such as continuous shooting, self-timer, and flash.

Drive Mode	Selects the drive mode, such as continuous shooting, self-timer, or bracket shooting.
Flash Mode	Selects the method used to fire the flash.
AF/MF Select	Selects auto focusing or manual focusing.
Autofocus Area	Selects the area to be focused on.
Autofocus Mode	Selects the autofocus method.
Precision Dig. Zoom	Sets the digital zoom.
Face Detection	Detects people's faces automatically, and adjusts focus and exposure to suit the faces.
Smile Shutter	Each time the camera detects a smile, the camera releases the shutter automatically.
Smile Detection	Sets the sensitivity of the Smile Shutter function for detecting smiles.
Soft Skin Effect	Sets the level of the Soft Skin Effect.
Shooting Tip List	Allows you to access all shooting tips.
Display Contents	Switches the information to be displayed on the shooting screen.

Image Size

Allows you to set the image size and aspect ratio.

Still	
Image Size	Selects the image size.
Aspect Ratio	Selects the aspect ratio.
Quality	Selects the compression format.
3D Panorama	
Image Size	Selects the image size of 3D panoramic images.
Panorama Direction	Selects the direction to pan the camera when shooting 3D panoramic images.
Panorama	
Image Size	Selects the image size of panoramic images.
Panorama Direction	Selects the direction to pan the camera when shooting panoramic images.
Movie	
Image Size	Selects the image size of movies.


Brightness/Color

Allows you to make brightness settings such as metering mode, and color settings such as white balance.

Exposure Comp.	Compensates for the brightness of the entire image.
ISO	Sets the ISO sensitivity.
White Balance	Adjusts the color tones according to the ambient light conditions.
Metering Mode	Selects the method used for measuring the brightness.
Flash Compensation	Adjusts the amount of flash light.
DRO/Auto HDR	Corrects the brightness or contrast automatically.
Creative Style	Selects the image processing method.

Playback


Allows you to set playback functions.

Delete	Deletes images.
Slide Show	Plays back images automatically.
Still/Movie Select	Selects a still image or movie to play back.
Image Index	Selects the number of images to be displayed on the index screen.
Select Folder	Selects the folder of still images to play back.
Select Date	Selects the date of movies to play back.
Rotate	Rotates images.
Protect	Protects images, or cancels the protection.
3D Viewing	Connects to a 3D compatible TV and allows you to view 3D images.
 Enlarge Image	Enlarges the image.
Volume Settings	Sets the sound volume of movies.
Specify Printing	Selects the images to print, or makes printing settings.
Display Contents	Switches the information to be displayed on the playback screen.

Setup

Allows you to make more detailed shooting settings, or change the camera settings.

Shooting Settings	
AF Illuminator	Sets the AF illuminator to assist auto-focusing in dim places.
Red Eye Reduction	Provides pre-flash before shooting when using the flash, to prevent eyes from being shot in red.
Auto Review	Sets the display time of the image right after shooting.

Grid Line	Turns on the grid line that helps you to adjust the composition of images.
Peaking Level	Enhances the outline of in-focus ranges with a specific color.
Peaking Color	Sets the color used for the peaking function.
Histogram	Displays the histogram of the luminance distribution.
MF Assist	Displays an enlarged image when focusing manually.
Color Space	Changes the range of color reproduction.
SteadyShot	Sets camera shake compensation.
Release w/oLens	Sets whether or not to release the shutter when there is no lens.
Long Exposure NR	Sets the noise reduction processing for long exposure shootings.
High ISO NR	Sets the noise reduction processing for high ISO sensitivity shootings.
Movie Audio Rec	Sets the sound for movie recording.
Custom Key Settings	
Left Key Setting	Assigns a function to the left key on the control wheel.
Right Key Setting	Assigns a function to the right key on the control wheel.
Soft key B Setting	Assigns a function to the soft key B.
Soft key C Setting	Assigns a function to the soft key C.
Custom	Sets the custom functions of the soft key C.
Main Settings	
Menu start	Selects a first-displayed menu from the top menu or the last menu screen.
Beep	Selects the sound produced when you operate the camera.
 Language	Selects the language used on the screen.
Date/Time Setup	Sets the date and time.
Area Setting	Selects the area where you are using the camera.
Help Guide Display	Turns the Help Guide on or off.
Power Save	Sets the time to turn the camera to the power save mode.
LCD Brightness	Sets the brightness of the LCD monitor.
Display Color	Selects the color of the LCD monitor.
Wide Image	Selects a method to display wide images.
Playback Display	Selects the method used to play back portrait images.
CTRL FOR HDMI	Sets whether or not to operate the camera with a "BRAVIA" Sync compatible TV's Remote Control.
USB Connection	Selects the method used for a USB connection.
Cleaning Mode	Allows you to clean the image sensor.
Version	Displays the versions of the camera and the lens/mount adaptor.

Demo Mode	Sets whether or not to display the demonstration with movies.
Reset Default	Resets the camera to the factory-settings.
Memory Card Tool	
Format	Formats the memory card.
File Number	Selects the method used for assigning file numbers to images.
Folder Name	Selects the folder name format.
Select Shoot. Folder	Selects the recording folder.
New Folder	Creates a new folder.
Recover Image DB	Repairs the image database file of movies when inconsistencies are found.
Display Card Space	Displays the remaining recording time of movies and the recordable number of still images on the memory card.
Eye-Fi Setup*	
Upload Settings	Sets the upload function of the camera when an Eye-Fi card is used.

* Appears when an Eye-Fi card (sold separately) is inserted in the camera.

Shooting images

Shooting images with the settings in effect when you bought the camera is explained here.

The camera makes decisions appropriate to the situation, and adjusts the settings.

1 Adjust the LCD monitor angle, and hold the camera.

The Scene Recognition function begins to work.

2 To take still images, press the shutter button halfway down to focus on your subject, and press it fully down to shoot.

To record movies, press the MOVIE button to start recording.

Press the MOVIE button again to stop recording.

Note

- You can continuously record a movie for up to 29 minutes or 2 GB. The recording time may vary depending on the ambient temperatures or recording conditions.

On Scene Recognition



Scene Recognition icon and guide

The Scene Recognition function lets the camera automatically recognize the shooting conditions and allows you to shoot the image with appropriate settings.

- The camera recognizes 🌙 (Night View), 📷 (Tripod Night View), 🧑 (Night Portrait), 🌃 (Backlight), 🧑📷 (Backlight Portrait), 🧑 (Portrait), 🏞️ (Landscape), or 🌸 (Macro), and displays the corresponding icon and guide on the LCD monitor when the scene is recognized.

If you shoot a still image of a subject that is difficult to focus on




When the camera cannot focus on the subject automatically, the focus indicator blinks. Either recompose the shot or change the focus setting.

Focus indicator	Status
● lit	Focus locked.
⦿ lit	Focus is confirmed. Focal point moves following a moving subject.
⦿ lit	Still focusing.
● flashing	Cannot focus.

- Focusing may be difficult in the following situations:
 - It is dark and the subject is distant.
 - The contrast between the subject and the background is poor.
 - The subject is seen through glass.
 - The subject is moving quickly.
 - The subject reflects light such as mirror, or has shiny surfaces.
 - The subject is flashing.
 - The subject is backlit.

Playing back images

Plays back the recorded images. Still images and movies are displayed on separate screens. You cannot display still images and movies on the same screen.

- 1 Press the  (Playback) button.
- 2 Select the image with the control wheel.
- 3 To play back panoramic images or movies, press the center of the control wheel.

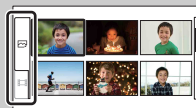
During movie playback	Control wheel operation
To pause/resume	Press the center.
To fast-forward	Press the right, or turn it clockwise.
To fast-rewind	Press the left, or turn it counterclockwise.
To adjust sound volume	Press the bottom → top/bottom.



Note

- Panoramic images shot on other cameras may not be played back properly.



Switching between the still image and movie



On the image index screen, you can switch the image type by selecting  (still image) or  (movie) on the left of the screen followed by pressing the center of the control wheel (page 37).

Enlarged playback

A portion of a still image can be enlarged for closer examination during playback. This is convenient to check the focus condition of a recorded still image. You can enlarge playback images from the Menu (page 92).

- 1 Display the image you want to enlarge, then press the center of the control wheel to confirm [Enlarge].
- 2 Adjust the scaling by turning the control wheel.
- 3 Select the portion you want to enlarge by pressing the top/bottom/right/left of the control wheel.
- 4 To cancel the enlarged playback, press [Exit].

Notes

- You cannot use the enlarged playback function with movies.
- To enlarge panoramic images, pause the playback first, and then press [Enlarge].

Scaling range

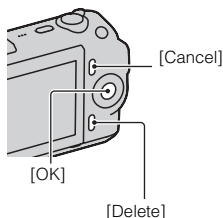
The scaling range is as follows.

Image size	Scaling range
L	Approx. $\times 1.1 - \times 14$
M	Approx. $\times 1.1 - \times 11$
S	Approx. $\times 1.1 - \times 7.3$

Deleting images

You can delete the image displayed.

- 1 Display the image you want to delete, and press [Delete].
- 2 Press the center of the control wheel to confirm [OK].
Press [Cancel] to quit the operation.



Notes

- You cannot delete protected images.
- Once you have deleted an image, you cannot restore it. Check whether you delete the image or not beforehand.



To delete several images

Select [Menu] → [Playback] → [Delete] to select and delete specific images at the same time.

Photo Creativity

You can operate the camera intuitively using Photo Creativity, since the screen is designed more for intuitive operations than the normal screen. You can shoot a subject with easy operations and obtain creative photos easily.

- 1 [Menu] → [Shoot Mode] → [Intelligent Auto].
- 2 Press the center of the control wheel.
- 3 Select the item you want to set by turning the control wheel, then press the center of the control wheel.

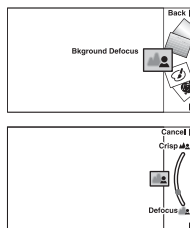
- 4 Select the desired setting by turning the control wheel, then press the center of the control wheel.

The screen changes to the Photo Creativity screen.

- 5 To take still images, press the shutter button.

To record movies, press the MOVIE button to start recording.

To return to [Intelligent Auto], press [Reset].



Available Photo Creativity functions

Bkground Defocus	Adjusts the blurring of the background.
Picture Effect	Selects the desired effect filter for shooting.
Soft Skin Effect	Adjusts the level of the Soft Skin Effect.
Self-timer/Continuous Adv.	Sets the 10-second delay self-timer/Shoots images continuously with high speed.
Vividness	Adjusts the vividness.
Color	Adjusts the color.
Brightness	Adjusts the brightness.

Notes

- The Photo Creativity function is only available when an E-mount lens is mounted.
- [Soft Skin Effect] and [Self-timer/Continuous Adv.] do not function in movie recording.
- Before the Photo Creativity mode is activated, when [Drive Mode] has been set to [Continuous Adv.], [Speed Priority Cont.] is selected. When [Drive Mode] has been set to [Self-timer(Cont.)] or [Self-timer: 2 Sec], [Self-timer: 10 Sec] is selected.
- [Autofocus] is selected automatically regardless of the setting of [AF/MF Select].
- The Smile Shutter function cannot be used.
- When the Photo Creativity mode is activated, several items that have been set on the menu become invalid.
- When the camera returns to [Intelligent Auto] or is turned off, the settings are reset to the default ones.


💡 Using the setup items simultaneously



You can use the Photo Creativity setup items simultaneously. Press the center of the control wheel and set each item. The icons of the items that have been set are indicated on the screen.

- [Soft Skin Effect] does not function in continuous shooting.
- Pressing [Undo] cancels the last setup item and the rightmost icon is erased.

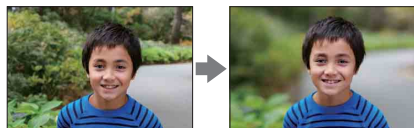
💡 Playing back in Photo Creativity mode

In Photo Creativity mode, pressing the  button accesses the Photo Creativity playback mode. Press [Back] to return to the shooting mode and you can shoot with the same setting.


Background Defocus

Photo Creativity allows you to defocus the background easily to make the subject stand out.

You can check the defocusing effect on the LCD monitor. You can record a movie with a value adjusted with the defocusing effect.



- 1 Press the center of the control wheel.
- 2 Select [Bkground Defocus] by turning the control wheel, then press the center of the control wheel.
- 3 Defocus the background by turning the control wheel.

 : Turn it clockwise to focus

 : Turn it counterclockwise to defocus

Press [Cancel] to restore to the original status.

Notes

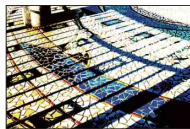
- The defocusing range available depends on the lens used.
- The defocusing effect may not be noticeable, depending on the distance from the subject or the lens used.

💡 For a better result of Background Defocus


- Move closer to the subject.
- Lengthen the distance between the subject and the background.


Picture Effect


You can set Picture Effect easily in Photo Creativity. Select the desired effect filter to achieve the various of textures.





- 1 Press the center of the control wheel.
- 2 Select [Picture Effect] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired effect by turning the control wheel.

 : Posterization (Color)


 : Posterization (B/W)

 : Pop Color


 : Retro Photo


 : Partial Color (Red)


 : Partial Color (Green)

 : Partial Color (Blue)

 : Partial Color (Yellow)

 : High-key

 : High Contrast Monochrome

 : Toy Camera

Press [Cancel] to restore to the original status.

For details on each effect filter, see page 42.

Note

- When [Partial Color (Red)], [Partial Color (Green)], [Partial Color (Blue)], or [Partial Color (Yellow)] is selected, images may not retain the selected color, depending on the subject.

Soft Skin Effect

You can set the Soft Skin Effect easily in Photo Creativity. You can shoot skin smoothly when the camera detects the faces of your subjects in Face Detection mode.



- 1 Press the center of the control wheel.
- 2 Select [Soft Skin Effect] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired effect level by turning the control wheel.

☼_{Hi} : Sets Soft Skin Effect to high.

☼_{MD} : Sets Soft Skin Effect to medium.

☼_{Lo} : Sets Soft Skin Effect to low.

Press [Cancel] to restore to the original status.

Note

- This function may not work, depending on your subject.


Self-timer/Continuous Adv.

You can set the self-timer and continuous shooting easily in Photo Creativity.



- 1 Press the center of the control wheel.
- 2 Select [Self-timer/Continuous Adv.] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired setting by turning the control wheel.

☼₁₀ : When you press the shutter button, the self-timer lamp flashes and the audio signal sounds, then the shutter is released after 10 seconds (Self-timer: 10 Sec).

 : While you press and hold down the shutter button, the camera shoots images continuously (Speed Priority Cont.).

Press [Cancel] to restore to the original status.

Note



- The focus and brightness settings of the first shot are used for the following shots in Speed Priority Continuous shooting.

Vividness

You can adjust the vividness easily in Photo Creativity.

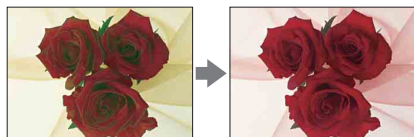


- 1 Press the center of the control wheel.
- 2 Select [Vividness] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired vividness by turning the control wheel.



 : Turn it clockwise to make images vivid
 : Turn it counterclockwise to make images faint
Press [Cancel] to restore to the original status.

Color

You can adjust the color easily in Photo Creativity.

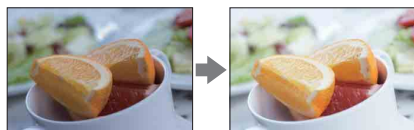




- 1 Press the center of the control wheel.
- 2 Select [Color] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired color by turning the control wheel.

 : Turn it clockwise to make the color warm
 : Turn it counterclockwise to make the color cool
Press [Cancel] to restore to the original status.

Brightness

You can adjust the brightness easily in Photo Creativity.



- 1 Press the center of the control wheel.
- 2 Select [Brightness] by turning the control wheel, then press the center of the control wheel.
- 3 Select the desired brightness by turning the control wheel.
 -  : Turn it clockwise to make images brighter
 -  : Turn it counterclockwise to make images darkerPress [Cancel] to restore to the original status.

DISP (Display Contents)




Using the control wheel:

- 1 Press DISP (Display Contents) on the control wheel repeatedly to select the desired mode.


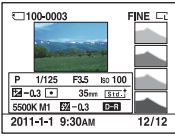

Using the Menu:

- 1 During shooting, [Menu] → [Camera] → [Display Contents].
During playback, [Menu] → [Playback] → [Display Contents].
- 2 Select the desired mode by turning the control wheel.

During shooting

✓	Disp. Basic Info	Shows basic shooting information. Graphically shows the shutter speed and aperture value, except for when [Shoot Mode] is set to [Intelligent Auto], [Sweep Panorama] or [3D Sweep Panorama].	
	Display Info.	Shows recording information.	
	No Disp. Info.	Does not show recording information.	

During playback

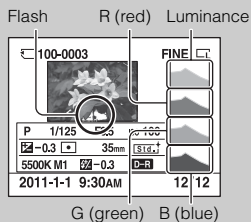
✓	Display Info.	Shows recording information.	
	Histogram	Displays the luminance distribution graphically, in addition to recording information.	
	No Disp. Info.	Does not show recording information.	

Note

- Histogram is not displayed during following playback modes.
 - Movie
 - Panorama
 - Slide Show

💡 What is histogram ?


The histogram displays the luminance distribution that shows how many pixels of a particular brightness exist in the picture. Brighter image will make the entire histogram shift to the right side, and darker image to the left side.



- If the image has a high-key or low-key portion, that portion flashes on the histogram display during playback (Luminance limit warning).

Exposure Comp.

You can adjust the exposure in 1/3 EV steps in a range of -2.0 EV to +2.0 EV.

1  (Exposure Comp.) on the control wheel → desired value.

Or, [Menu] → [Brightness/Color] → [Exposure Comp.] → desired value.

Notes

- You cannot use [Exposure Comp.] when using the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Manual Exposure]
- If you shoot a subject in extremely bright or dark conditions, or when you use the flash, you may not be able to get a satisfactory effect.

Adjusting the exposure for better looking images



Overexposure = too much light
Whitish image



Set [Exposure Comp.] toward -.



Correct exposure



Set [Exposure Comp.] toward +.





Underexposure = too little light
Darker image

- To shoot subjects in brighter tones, set a +-side exposure compensation.
To make photos of food look more appealing, shoot the food a little brighter than usual and try to use a white background.
- When shooting a blue sky, setting a --side exposure compensation will allow you to capture the sky in vivid colors.

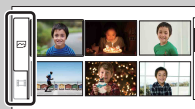
Image Index



Displays multiple images at the same time.

- 1 Press the  (Playback) button to switch to the playback mode.
- 2 Press  (Image Index) on the control wheel.
Six-image index appears.
You can switch to 12-image index; [Menu] → [Playback] → [Image Index].
- 3 To return to the single-image playback, select the desired image and press the center of the control wheel.



Switching between the still image and movie



On the image index screen, you can switch the image type by selecting  (still image) or  (movie) on the left of the screen followed by pressing the center of the control wheel.

Still images and movies cannot be displayed on the same index.

You can also switch the image type using the menu (page 86).

Intelligent Auto

The camera analyzes the subject, and allows you to shoot with appropriate settings.

1 [Menu] → [Shoot Mode] → [Intelligent Auto].

2 Point the camera to the subject.

When the camera recognizes the scene, the Scene Recognition icon and guide appear on the screen.

The camera recognizes 🌙 (Night View), 📷 (Tripod Night View), 👤 (Night Portrait), 📷 (Backlight), 📷 (Backlight Portrait), 👤 (Portrait), 🏞️ (Landscape), or 🌸 (Macro).



Scene Recognition icon and guide

Notes

- [Flash Mode] is set to [Autoflash] or [Flash Off].
- You can shoot even if the camera has not recognized the scene.
- When [Face Detection] is set to [Off], the [Portrait], [Backlight Portrait], and [Night Portrait] scenes are not recognized.

💡 Photo Creativity

Pressing the center of the control wheel accesses the Photo Creativity menu in shooting mode. Using it, you can change the settings with easy operations and achieve creative photography (page 28).

If you shoot a still image of a subject that is difficult to focus on



When the camera cannot focus on the subject automatically, the focus indicator blinks. Either recompose the shot or change the focus setting.

Focus indicator	Status
● lit	Focus locked.
⦿ lit	Focus is confirmed. Focal point moves following a moving subject.
⦿ lit	Still focusing.
● flashing	Cannot focus.

- Focusing may be difficult in the following situations:
 - It is dark and the subject is distant.
 - The contrast between the subject and the background is poor.
 - The subject is seen through glass.
 - The subject is moving quickly.
 - The subject reflects light such as mirror, or has shiny surfaces.
 - The subject is flashing.
 - The subject is backlit.

Scene Selection

Allows you to shoot with preset settings according to the scene.

1 [Menu] → [Shoot Mode] → [Scene Selection] → desired mode.










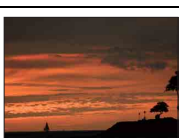



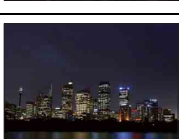
 (Portrait)	Blurs away backgrounds and sharpens the subject. Expresses skin tones softly.	
 (Landscape)	Shoots the entire range of scenery in sharp focus with vivid colors.	
 (Macro)	Shoots close subjects such as flowers, insects, food, or small items.	
 (Sports Action)	Shoots a moving subject at a fast shutter speed so that the subject looks as if it is standing still. The camera shoots images continuously while the shutter button is pressed.	
 (Sunset)	Shoots the red of the sunset beautifully.	
 (Night Portrait)	Shoots portraits in night scenes. Attach and fire the flash.	
 (Night View)	Shoots night scenes without losing the dark atmosphere.	

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(Hand-held Twilight)

Shoots night scenes with less noise and blur without using a tripod. A burst of shots are taken, and image processing is applied to reduce subject blur, camera shake, and noise.



Notes

- In the [Night View] and [Night Portrait] modes, the shutter speed is slower, so using a tripod is recommended to prevent the image from blurring.
- In the [Hand-held Twilight] mode, the shutter clicks six times and an image is recorded.
- If you select [Hand-held Twilight] with [RAW] or [RAW & JPEG], the image quality becomes [Fine] temporarily.
- Reducing blur is less effective even in [Hand-held Twilight] when shooting:
 - Subjects with erratic movement
 - Subjects are too close to the camera
 - Subjects with a repeating pattern such as tiles, and subjects with little contrast such as sky, sandy beach, or lawn
 - Subjects with constant change such as waves or water falls
- In the case of [Hand-held Twilight], block noise may occur when using a light source that flickers, such as fluorescent lighting.
- The minimum distance that you can come close to a subject does not change even if you select [Macro]. For the minimum in-focus range, refer to the minimum distance of the lens attached to the camera.

Picture Effect

You can shoot with an effect filter to obtain the various textures.

1 [Menu] → [Shoot Mode] → [Picture Effect] → desired mode.


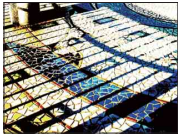




















 Posterization (Color)	Creates a high contrast, abstract look by heavily emphasizing primary colors.	
 Posterization (B/W)	Creates a high contrast, abstract look in black and white.	
 Pop Color	Creates a vivid look by emphasizing color tones.	
 Retro Photo	Creates the look of an aged photo with sepia color tones and faded contrast.	
 Partial Color (Red)	Creates an image which retains the color red, but converts others to black and white.	
 Partial Color (Green)	Creates an image which retains the color green, but converts others to black and white.	
 Partial Color (Blue)	Creates an image which retains the color blue, but converts others to black and white.	

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 Partial Color (Yellow)	<p>Creates an image which retains the color yellow, but converts others to black and white.</p>	
 High-key	<p>Creates an image with the indicated atmosphere: bright, transparent, ethereal, tender, soft.</p>	
 High Contrast Monochrome	<p>Creates an image with high contrast in black and white.</p>	
 Toy Camera	<p>Creates the look of a Toy Camera photo with shaded corners and pronounced colors.</p>	

Notes

- If you select [Picture Effect], with [RAW] or [RAW & JPEG] selected, [Quality] is temporarily set to [Fine].
- When [Partial Color (Red)], [Partial Color (Green)], [Partial Color (Blue)], or [Partial Color (Yellow)] is selected, images may not retain the selected color, depending on the subject.

Anti Motion Blur

This is suitable for indoor shots without using the flash, to reduce the subject blur.

1 [Menu] → [Shoot Mode] → [Anti Motion Blur].

2 Shoot with the shutter button.

The camera combines six shots at high sensitivity into one still image, so camera shake is reduced while preventing noise.

Notes

- If you select [Anti Motion Blur] with [RAW] or [RAW & JPEG], the image quality becomes [Fine] temporarily.
- The shutter clicks six times and an image is recorded.
- Reducing blur is less effective when shooting:
 - Subjects with erratic movement.
 - Subjects are too close to the camera.
 - Subjects with a repeating pattern such as tiles, and subjects with little contrast such as sky, sandy beach, or lawn.
 - Subjects with constant change such as waves or water falls.
- When using a light source that flickers, such as fluorescent lighting, block noise may occur.

Sweep Panorama

Allows you to create a panoramic image from composed images.



- 1 [Menu] → [Shoot Mode] → [Sweep Panorama].
- 2 Point the camera at the edge of the subject, then press the shutter button fully down.



This part will not be taken.

- 3 Pan the camera to the end, following the guidance on the LCD monitor.



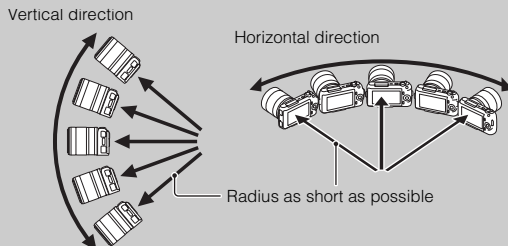
Guidance bar

Notes

- If you cannot pan the camera across the entire subject within the given time, a gray area occurs in the composed image. If this happens, move the camera fast to record a full panoramic image.
- When you select [Wide] in [Image Size], you may not be able to pan the camera across the entire subject within the given time. In such cases, we recommend that you select [Standard] in [Image Size].
- The camera continues shooting during [Sweep Panorama] recording, and the shutter keeps clicking until the end of the shooting.
- Since several images are stitched together, the stitched part will not be recorded smoothly.
- Under low light conditions, panoramic images may be blurred.
- Under lights that flicker such as fluorescent light, the brightness or color of the combined image is not always the same.
- When the whole angle of panoramic shooting and the angle in which you fixed the focus and exposure with AE/AF lock are extremely different in brightness, color and focus, the shooting will not be successful. If this happens, change the lock angle and shoot again.
- [Sweep Panorama] is not suitable when shooting:
 - Subjects are moving.
 - Subjects are too close to the camera.
 - Subjects with a repeating pattern such as tiles, and subjects with little contrast such as sky, sandy beach, or lawn.
 - Subjects with constant change such as waves or water falls.
 - Subjects with the sun or electric lights, etc. that are much brighter than surroundings.
- [Sweep Panorama] recording may be discontinued in the following situations:
 - You pan the camera too fast or too slow.
 - There is too much camera shake.

💡 Tips for shooting a panoramic image

Pan the camera in an arc with a constant velocity and in the same direction as the indication on the LCD monitor. [Sweep Panorama] is better suited for still subjects, rather than moving ones.



- When using a zoom lens, it is recommended to use it with W side.
- Determine the scene and press the shutter button halfway, so that you can lock the focus, exposure, and white balance. Then, press the shutter button fully down and pan the camera.
- If a section with greatly varied shapes or scenery is concentrated along a screen edge, the image composition may fail. In such case, adjust the frame composition so that the section is in the center of the image, then shoot again.
- You can select the direction by [Menu] → [Image Size] → [Panorama Direction], and the image size by [Menu] → [Image Size] → [Image Size].

💡 Playing back scrolling panoramic images

You can scroll panoramic images from the beginning to the end by pressing the center of the control wheel while panoramic images are being displayed. Press it again to pause.



Shows the displayed area of the whole panoramic image.

- Panoramic images are played back with the supplied software "PMB."
- Panoramic images shot with other cameras may not be displayed or scrolled correctly.

3D Sweep Panorama

Allows you to create a 3D image from composed images.

3D images shot in [3D Sweep Panorama] mode of this camera can be played back only on a 3D TV. The recorded images are played back as normal still images on the LCD monitor of this camera and a non-3D TV.

1 [Menu] → [Shoot Mode] → [3D Sweep Panorama].

2 Point the camera at the edge of the subject, then press the shutter button fully down.



This part will not be taken.

3 Pan the camera to the end, following the guidance on the LCD monitor.



Guidance bar

Notes

- You may feel uncomfortable symptoms such as eyestrain, nausea, or a tired feeling while watching 3D images recorded with the camera on 3D compatible monitors. When you watch 3D images, we recommend that you take a break at regular time intervals. Since the need for or frequency of break times varies between individuals, please set your own standards. If you feel sick, stop watching 3D images, and consult a doctor as needed. Also, refer to the operating instructions of the connected device or the software used with the camera. A child's vision is always vulnerable (especially for children under six years of age). Before allowing them to watch 3D images, please consult with an expert, such as a pediatric or ophthalmic doctor. Make sure your children follow the precautions above.
- If you cannot pan the camera across the entire subject within the given time, a gray area occurs in the composed image. We recommend you pan the camera 180 degrees within about eight seconds when using an E18 – 55 mm lens at the wide end (18 mm) for better results. You should pan the camera slower with the telephoto side of the lens.
- When you select [Wide] in [Image Size], you may not be able to pan the camera across the entire subject within the given time. In such cases, we recommend that you select [Standard] or [16:9] in [Image Size].
- If you shoot a 3D image with T side of a zoom lens, a gray area may occur more often, or shooting may be stopped. It is recommended to use a zoom lens with W side.
- The camera continues shooting during [3D Sweep Panorama] recording, and the shutter keeps clicking until the end of the shooting.
- Since several images are stitched together, the stitched part will not be recorded smoothly.
- Under low light conditions, 3D panoramic images may be blurred.
- Under lights that flicker such as fluorescent light, the brightness or color of the combined image is not always the same.
- When the whole angle of 3D panoramic shooting and the angle in which you fixed the focus and exposure (AE/AF lock) by pressing the shutter button halfway down are extremely different in brightness, color and focus, the shooting will not be successful. If this happens, change the lock angle and shoot again.
- [3D Sweep Panorama] is not suitable when shooting:
 - Subjects are moving.
 - Subjects are too close to the camera.
 - Subjects with a repeating pattern such as tiles, and subjects with little contrast such as sky, sandy

- beach, or lawn.
- Subjects with constant change such as waves or water falls.
- Subjects with the sun or electric lights, etc. that are much brighter than surroundings.
- [3D Sweep Panorama] recording may be discontinued in the following situations:
 - You pan the camera too fast or too slow.
 - There is too much camera shake.
- A 3D image consists of both JPEG and MPO files. If you delete either the JPEG file or the MPO file comprising a 3D image, that 3D image may not be played back.
- You can pan the camera in the horizontal direction only when shooting 3D Sweep Panorama images.

💡 Tips for shooting a 3D panoramic image



Pan the camera in a small arc at a constant speed in the direction indicated on the LCD screen, taking the following points into account. You should pan at about half speed of that in normal sweep panorama shooting.

- Shoot a still subject.
- Maintain a sufficient distance between the subject and the background.
- Shoot 3D images in a bright place, such as outdoors.
- Determine the scene and press the shutter button halfway, so that you can lock the focus, exposure, and white balance. Then, press the shutter button fully down and pan the camera.
- When using a zoom lens, it is recommended to use it with W side.
- You can select the direction by [Menu] → [Image Size] → [Panorama Direction], and the image size by [Menu] → [Image Size] → [Image Size].



💡 File name of the 3D image

A 3D image consists of both JPEG and MPO files.

If you import images shot in [3D Sweep Panorama] mode into a computer, the following two image data are stored in the same folder on the computer.

- DSC0□□□.jpg
- DSC0□□□.mpo

If you delete either the JPEG file or the MPO file comprising a 3D image, that 3D image may not be played back.

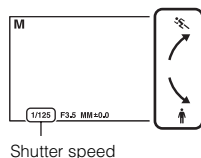
Manual Exposure

You can shoot with the desired exposure setting by adjusting both the shutter speed and aperture.

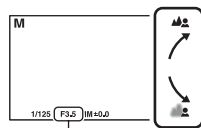
1 [Menu] → [Shoot Mode] → [Manual Exposure].

2 Press the bottom of the control wheel repeatedly to select shutter speed or aperture.

Shutter speed and aperture adjustment screens appear alternately.



Shutter speed



Aperture (F-value)

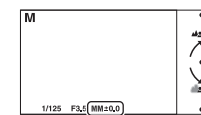
3 Turn the control wheel to select the desired value.

Check the exposure value at “MM” (metered manual).

Toward +: Images become brighter.

Toward -: Images become darker.


0: Appropriate exposure analyzed by the camera



Metered manual

4 Adjust the focus and shoot the subject.

Notes

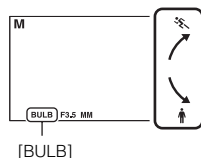
- You cannot select [Flash Off] and [Autoflash] in [Flash Mode]. Select it by pushing the flash up or down with your fingers.
- The  (Camera shake warning) indicator is not indicated in manual exposure mode.
- The ISO setting [ISO AUTO] is set to [ISO 200] in manual exposure mode. Set the ISO sensitivity as necessary.
- The brightness of the image on the LCD monitor may differ from the actual image being shot.

BULB

You can shoot trails with long exposure. BULB is suitable for shooting trails of light, such as fireworks.



- 1 [Menu] → [Shoot Mode] → [Manual Exposure].
- 2 Press the bottom of the control wheel to select shutter speed.
- 3 Turn the control wheel to the left until [BULB] is indicated.



- 4 Press the shutter button halfway down to adjust the focus.
- 5 Press and hold the shutter button for the duration of the shooting.
As long as the shutter button is pressed, the shutter remains open.

Notes

- Since the shutter speed becomes slow and the camera shake tends to occur more easily, it is recommended that you use a tripod.
- The longer the exposure time, the more conspicuous the noise on the image.
- After shooting, noise reduction (Long Exposure NR) will be done for the same amount of time that the shutter was open. You cannot do any further shooting during the reduction.
- When the [Smile Shutter] or [Auto HDR] function is activated, you cannot set the shutter speed to [BULB].
- If the [Smile Shutter] or [Auto HDR] function is used with the shutter speed set to [BULB], the shutter speed is temporarily set to 30 seconds.

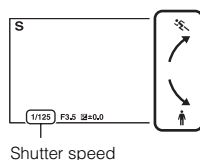
Shutter Priority

You can express the movement of a moving subject in various way by adjusting the shutter speed, for example, at the instant of the movement with high speed shutter, or as a trailing image with low speed shutter.


1 [Menu] → [Shoot Mode] → [Shutter Priority]
→ desired value.

2 Adjust the focus and shoot the subject.

The aperture is automatically adjusted to obtain proper exposure.



Notes

- You cannot select [Flash Off] and [Autoflash] in [Flash Mode]. Select it by pushing the flash up or down with your fingers.
- The  (Camera shake warning) indicator is not indicated in shutter speed priority mode.
- When the shutter speed is one second or more, noise reduction (Long Exposure NR) will be done for the same amount of time that the shutter was open after shooting. You cannot do any further shooting during the reduction.
- If proper exposure cannot be obtained after the setup, when you press the shutter button halfway down, the aperture value blinks. Although you can shoot as it is, resetting is recommended.
- The brightness of the image on the LCD monitor may differ from the actual image being shot.

Shutter speed



When a faster shutter speed is used, a moving subject such as a running person, cars, and sea spray appears as if they are stopped.



When a slower shutter speed is used, a trailing image of the movement of the subject is captured to make more natural and dynamic image.

Aperture Priority

Blurs or sharpens things in front of and beyond the subject.

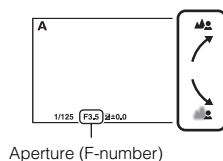
1 [Menu] → [Shoot Mode] → [Aperture Priority] → desired value.

- Smaller F-value: The subject is in focus, but things in front of and beyond the subject is blurred.
- Larger F-value: The subject and its foreground and background are all in focus.

2 Adjust the focus and shoot the subject.

The shutter speed is automatically adjusted to obtain proper exposure.

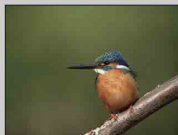
In movie recording, the aperture value that was set before shooting will be used.



Notes

- You cannot select [Flash Off] and [Autoflash] in [Flash Mode]. Select it by pushing the flash up or down with your fingers.
- If proper exposure cannot be obtained after the setup, when you press the shutter button halfway down, the shutter speed blinks. Although you can shoot as it is, resetting is recommended.
- The brightness of the image on the LCD monitor may differ from the actual image being shot.
- The aperture cannot be adjusted during movie recording.

Aperture



Smaller F-value (opening the aperture) narrows the range that is in focus. This allows you to put the subject in sharp focus and blur things in front of and beyond the subject. (Depth of field becomes shallower.)



Larger F-value (narrowing down the aperture) widens the range that is in focus. This allows you to shoot the depth of the scenery. (Depth of field becomes deeper.)

Program Auto

While exposure is adjusted by the camera automatically, you can set shooting functions such as ISO sensitivity, Creative Style, D-Range optimizer.

- 1 [Menu] → [Shoot Mode] → [Program Auto].
- 2 Set the shooting functions to your desired settings.
- 3 Adjust the focus and shoot the subject.







Note

- You cannot select [Flash Off] and [Autoflash] in [Flash Mode]. Select it by pushing the flash up or down with your fingers.

Drive Mode

You can set the drive mode, such as continuous, self-timer, or bracket shooting.

1 [Menu] → [Camera] → [Drive Mode] → desired mode.

✓	 (Single-shot Adv.)	Shoots one still image. Normal shooting mode.
	 (Continuous Adv.)	Shoots images continuously while you press and hold down the shutter button (page 55).
	 (Speed Priority Cont.)	Shoots images continuously at high speed while you press and hold down the shutter button (page 56). Focus and brightness settings of the first shot are used for the following shots.
	 (Self-timer)	Shoots an image after ten or two seconds (page 57).
	 (Self-timer(Cont.))	Shoots images continuously after ten seconds (page 58).
	 (BRK C (Bracket: Cont.))	Shoots three images, each with different degrees of exposure (page 59).

Note

- You cannot change the setting when using the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Auto HDR]

Continuous Adv.

Shoots images continuously while you press and hold down the shutter button.

1 [Menu] → [Camera] → [Drive Mode] → [Continuous Adv.].

Note

- You cannot use [Continuous Adv.] with the following functions:
 - [Scene Selection], excluding [Sports Action] and [Hand-held Twilight]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [Auto HDR]

Speed Priority Cont.

Shoots images continuously while you press and hold down the shutter button, at a higher speed than that of [Continuous Adv.].

1 [Menu] → [Camera] → [Drive Mode] → [Speed Priority Cont.].

Notes



- You cannot use [Speed Priority Cont.] with the following functions.
 - [Scene Selection], excluding [Sports Action]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [Auto HDR]
- Focus and brightness settings of the first shot are used for the following shots.

Self-timer

1 [Menu] → [Camera] → [Drive Mode] → [Self-timer].

2 [Option] → desired mode.

To cancel the timer, select [Single-shot Adv.].

✓	 (Self-timer: 10 Sec)	Sets the 10-second delay self-timer. When you press the shutter button, the self-timer lamp flashes and the audio signal sounds until the shutter operates.
	 (Self-timer: 2 Sec)	Sets the 2-second delay self-timer. This reduces the camera shake caused by pressing the shutter button.

Note

- You cannot use [Self-timer] with the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [Auto HDR]



Self-timer(Cont.)

Continuously shoots the number of images you have set after ten seconds. You can choose the best shot from several shots taken.

1 [Menu] → [Camera] → [Drive Mode] → [Self-timer(Cont.)].

2 [Option] → desired mode.

To cancel the timer, select [Single-shot Adv.].

✓	 (Self-timer(Cont.): 10 Sec. 3 Img.)	Shoots three or five still images continuously after ten seconds. When you press the shutter button, the self-timer lamp flashes and the audio signal sounds until the shutter operates.
	 (Self-timer(Cont.): 10 Sec. 5 Img.)	

Note

- You cannot use [Self-timer(Cont.)] with the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [Auto HDR]

Bracket: Cont.

Shoots three images while automatically shifting the exposure from base, to darker, then to lighter. Press and hold down the shutter button until the bracket recording is completed.



You can select an image that suits your intention, after recording.



1 [Menu] → [Camera] → [Drive Mode] → [Bracket: Cont.].

2 [Option] → desired mode.

To cancel the bracket, select [Single-shot Adv.].

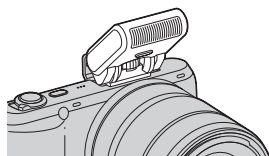
✓	 C (Bracket: Cont.: 0.3 EV)	Images are taken with the set value of deviation (steps) from the base exposure.
	 C (Bracket: Cont.: 0.7 EV)	

Notes






- You cannot use [Bracket: Cont.] with the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [Auto HDR]
- The last shot is shown on the auto review.
- In [Manual Exposure], the exposure is shifted by adjusting the shutter speed.
- When you adjust the exposure, the exposure is shifted based on the compensated value.

Flash Mode

In a dark location, using the flash allows you to shoot the subject brightly, and it also helps to prevent camera shake. When shooting into the sun, you can use the flash to shoot a bright image of the backlit subject.



- 1 Attach the flash and raise it.
- 2 [Menu] → [Camera] → [Flash Mode] → desired mode.

 (Flash Off)	Does not fire even if the flash is raised.
 (Autoflash)	Fires if it is dark or against light.
 (Fill-flash)	Fires every time you trigger the shutter.
 (Slow Sync.)	Fires every time you trigger the shutter. Slow sync shooting allows you to shoot a clear image of both the subject and the background by slowing the shutter speed.
 (Rear Sync.)	Fires right before the exposure is completed every time you trigger the shutter. Rear sync shooting allows you to shoot a natural image of the trail of a moving subject such as a moving bicycle or a walking person.

Notes

- The default setting depends on the shooting mode.
- Available flash mode depends on the shooting mode.
- You cannot use the flash when recording movies.

Tips on shooting with the flash

- The lens hood may block the light of the flash. Remove the lens hood when using the flash.
- When using the flash, shoot the subject at a distance of 1 m (3.3 feet) or greater.
- When shooting a backlit subject, select [Fill-flash]. The flash will operate even in bright daylight, and make faces come out brighter.

AF/MF Select

Selects auto focusing or manual focusing.

1 [Menu] → [Camera] → [AF/MF Select] → desired mode.

✓	AF (Autofocus)	Focuses automatically.
	DMF (DMF)	After focusing automatically, make fine focus adjustment manually (Direct Manual Focus).
	MF (Manuafocus)	Adjusts the focus manually. Turn the focusing ring right or left to make the subject look clearer.

Note

- If you turn the focusing ring when [Manuafocus] or [DMF] is selected, the image is enlarged automatically to enable you to check focus area easier. You can prevent the image from being enlarged by selecting [Menu] → [Setup] → [MF Assist] → [Off].

💡 Using manual focusing effectively



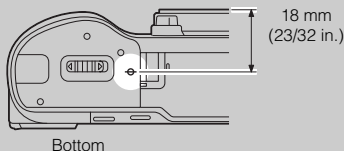
“Focus fixing” is convenient when you can predict the distance to the subject. With “Focus fixing,” you can fix the focus in advance to the distance at which the subject is to pass.

💡 To measure the exact distance to the subject

The ⊖ mark shows the location of the image sensor*. When you measure the exact distance between the camera and the subject, refer to the position of the horizontal line. The distance from the lens contact surface to the image sensor is about 18 mm (23/32 in.).

* The image sensor is the part of the camera that acts as the film.

- If the subject is closer than the minimum shooting distance of the attached lens, the focus cannot be confirmed. Make sure you put enough distance between the subject and the camera.



DMF (Direct Manual Focus)

- 1 [Menu] → [Camera] → [AF/MF Select] → [DMF].
- 2 Press the shutter button halfway down to focus automatically.
- 3 Keep the shutter button halfway down, rotate the focusing ring of the lens to achieve a sharp focus.






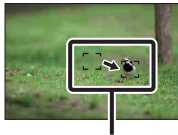
Notes

- [Autofocus Mode] is fixed to [Single-shot AF].
- This item cannot be selected when an A-mount lens (sold separately) is mounted.

Autofocus Area

Selects the focusing area. Use this function when it is difficult to get the proper focus in auto focus mode.

1 [Menu] → [Camera] → [Autofocus Area] → desired mode.

✓	 (Multi)	<p>The camera determines which of the 25 AF areas is used for focusing. When you press the shutter button halfway down in still image shooting mode, a green frame is displayed around the area that is in focus.</p> <ul style="list-style-type: none"> When the Face Detection function is active, AF operates with priority on faces. 	 <p>AF range finder frame</p>
	 (Center)	<p>The camera uses the AF area located in the center area exclusively.</p>	 <p>AF range finder frame</p>
	 (Flexible Spot)	<p>Moves the focusing area to focus on a small subject or narrow area by pressing the top/bottom/right/left of the control wheel.</p>	 <p>AF range finder frame</p>

Notes

- When this function is set to other than [Multi], you cannot use the [Face Detection] function.
- [Multi] is selected when using the following functions:
 - Movie recording
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
- When the AF illuminator is used, the setting of [Autofocus Area] is invalid and the AF area is indicated with a dotted line. AF operates with priority on and around the center area.

Autofocus Mode

Selects the focus method to suit the movement of the subject.

1 [Menu] → [Camera] → [Autofocus Mode] → desired mode.

✓	AF-S (Single-shot AF)	The camera focuses and the focus is locked when you press the shutter button halfway down. Use this when the subject is motionless.
	AF-C (Continuous AF)	The camera continues to focus while the shutter button is pressed and held halfway down. Use this when the subject is in motion.

Notes

- [Single-shot AF] is selected when using the following functions:
 - [Intelligent Auto]
 - [Self-timer]
 - [Scene Selection], excluding [Sports Action]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - An A-mount lens (sold separately) is used.
- [Continuous AF] is selected when the exposure mode is set to [Sports Action] in [Scene Selection].
- In [Continuous AF] mode, the audio signals will not sound when the subject is in focus.

Precision Dig. Zoom

You can shoot still images while zooming in on the center portion.

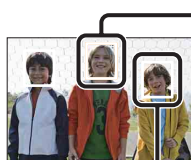
- 1 [Menu] → [Camera] → [Precision Dig. Zoom].
- 2 Turn the control wheel and decide the zoom rate.
You can zoom in up to ten times.
- 3 To stop zooming, press [Exit].

Notes

- You cannot set this item when using the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Smile Shutter]
 - [RAW] or [RAW & JPEG] in [Quality]
 - [Auto HDR] in [DRO/Auto HDR]
- If you press the MOVIE button when [Precision Dig. Zoom] is working, zooming is canceled, the image on the screen returns to the normal size, and movie recording starts.
- As the image is zoomed by digital processing, the image quality deteriorates compared to that before zooming was used. If you use a zoom lens, we recommend that you fully zoom in on an image first, then use the Precision Dig. Zoom function if you need further zooming.
- When you use the Precision Dig. Zoom function with the Picture Effect function, an effect may be extremely emphasized on the LCD monitor before shooting. These phenomena have no effect on the recorded images.
- When you use the Precision Dig. Zoom function, the setting of [Autofocus Area] is invalid and the AF area is indicated with a dotted line. AF operates with priority on and around the center area.

Face Detection

Detects the faces of your subjects and adjusts the focus, flash, exposure, and white balance settings automatically. You can select the priority face to be focused on.



Face Detection frame (Orange)

When the camera detects more than one subject, the camera will judge which is the main subject and set focus by priority. The Face Detection frame for the main subject will turn orange. The frame for which the focus is set will turn green by pressing the shutter button halfway down.

Face Detection frame (White)

1 [Menu] → [Camera] → [Face Detection] → desired mode.

	(Off)	Does not use the Face Detection function.
✓	(Auto)	Selects the face which the camera is to automatically focus on.
	(Child Priority)	Detects and shoots with priority on child's face.
	(Adult Priority)	Detects and shoots with priority on adult's face.

Notes

- You cannot use [Face Detection] with the following functions:
 - Movie recording
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Manualfocus]
 - [Precision Dig. Zoom].
- You can select [Face Detection] only when [Autofocus Area] is set to [Multi], and [Metering Mode] is also set to [Multi].
- Up to eight faces of your subjects can be detected.
- Adults and children may not be recognized correctly depending on the conditions.
- During [Smile Shutter] shooting, [Face Detection] is automatically set to [Auto] even if it is set to [Off].

Smile Shutter

When the camera detects a smile, the shutter is released automatically.

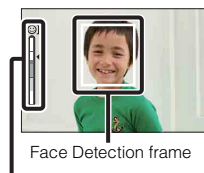
1 [Menu] → [Camera] → [Smile Shutter] → [On].

2 Wait for a smile to be detected.

When the smile level exceeds the ◀ point on the indicator, the camera records images automatically.

If you press the shutter button during Smile Shutter shooting, the camera shoots the image, then returns to Smile Shutter mode.

3 To exit Smile Shutter mode, [Menu] → [Camera] → [Smile Shutter] → [Off].



Smile Detection indicator

Notes

- You cannot use [Smile Shutter] with the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Manualfocus]
 - [Precision Dig. Zoom]
- Unless the subject is in focus, the shutter is not released, even if the smile level exceeds the ◀ point. Adjust the composition or brightness to enable the camera to focus easily.
- Shooting using the Smile Shutter ends automatically when the memory card becomes full.
- Smiles may not be detected correctly depending on the conditions.
- The drive mode turns to [Single-shot Adv.] automatically.

💡 Tips for better capturing of smiles






- ① Do not cover the eyes with the bangs.
Do not obscure the face by a hat, masks, sunglasses, etc.
- ② Try to orient the face in front of the camera and be as level as possible.
Keep the eyes narrowed.
- ③ Give a clear smile with an open mouth.
The smile is easier to be detected when the teeth are shown.

- The shutter operates when any person whose smile is detected.
- If a smile is not detected, set the [Smile Detection] in the menu.

Smile Detection

Sets the sensitivity of the Smile Shutter function for detecting smiles.

1 [Menu] → [Camera] → [Smile Detection] → desired mode.

	 (Big Smile)	Detects a big smile.
✓	 (Normal Smile)	Detects a normal smile.
	 (Slight Smile)	Detects even a slight smile.






Notes

- You cannot change [Smile Detection] when using the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Manualfocus]
- Smiles may not be detected correctly depending on the conditions.

Soft Skin Effect

Sets the effect used for shooting the skin smoothly in the Face Detection function.

1 [Menu] → [Camera] → [Soft Skin Effect] → desired mode.

	(High)	Sets Soft Skin Effect to high.
	(Mid)	Sets Soft Skin Effect to medium.
	(Low)	Sets Soft Skin Effect to low.
	 (Off)	Does not use the Soft Skin Effect function.

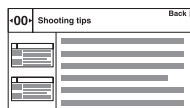
Notes

- You cannot use [Soft Skin Effect] with the following functions:
 - Movie recording
 - [Continuous Adv.]
 - [Speed Priority Cont.]
 - [Bracket: Cont.]
 - [Self-timer(Cont.)]
 - [Sports Action] in [Scene Selection]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [RAW] in [Quality]
- This function may not work, depending on your subject.

Shooting Tip List

Allows you to search through all shooting tips in the camera.

Use this item when you want to look at shooting tips you have seen before.



- 1 [Menu] → [Camera] → [Shooting Tip List].
- 2 Press the left or right of the control wheel and search for the desired shooting tip.
Turn the control wheel to scroll the text up and down.
You can access a tip from the [Table of contents].







Image Size

The image size determines the size of the image file that is recorded when you record an image.

The larger the image size, the more detail will be reproduced when the image is printed on large-format paper. The smaller the image size, the more images can be recorded.

1 [Menu] → [Image Size] → [Image Size] → desired mode.




Still

Image size when [Aspect Ratio] is 3:2			Usage guidelines
✓	 (L: 16M)	4912 × 3264 pixels	For prints up to A3+ size
	 (M: 8.4M)	3568 × 2368 pixels	For prints up to A4 size
	 (S: 4.0M)	2448 × 1624 pixels	For prints L/2L size
Image size when [Aspect Ratio] is 16:9			Usage guidelines
✓	 (L: 14M)	4912 × 2760 pixels	For viewing on a high-definition TV
	 (M: 7.1M)	3568 × 2000 pixels	
	 (S: 3.4M)	2448 × 1376 pixels	

Notes

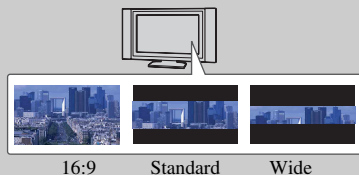
- When you print still images recorded with 16:9 aspect ratio, both edges may be cut off.
- When you select a RAW image with [Quality], the image size corresponds to L.

3D Sweep Panorama

	 (16:9)	Shoots images using a size suitable for a high-definition TV. Horizontal: 1920 × 1080
✓	 (Standard)	Shoots images using standard size. Horizontal: 4912 × 1080
	 (Wide)	Shoots images using wide size. Horizontal: 7152 × 1080

Tips for selecting the image size



The 3D images appear differently, depending on the mode selected.



When [Standard] or [Wide] is selected, the images are scrolled when you press the center of the control wheel.

Sweep Panorama

The image size varies depending on the [Panorama Direction] setting.

✓	 (Standard)	Shoots images using standard size. Vertical: 3872 × 2160 Horizontal: 8192 × 1856
	 (Wide)	Shoots images using wide size. Vertical: 5536 × 2160 Horizontal: 12416 × 1856

Note

- When you print panoramic images, both edges may be cut off.

Movie

The larger the image size, the higher the image quality.

Image size	Average bit-rate	Usage guidelines
✓ 1280 × 720 (Fine)	9 Mbps	Records with high image quality for viewing on a high-definition TV.
1280 × 720 (Standard)	6 Mbps	
VGA (640 × 480)	3 Mbps	Records in the suitable size for WEB uploads.

Aspect Ratio

Sets the aspect ratio of still images.

1 [Menu] → [Image Size] → [Aspect Ratio] → desired mode.

✓	3:2	Standard aspect ratio. Suitable for prints.
	16:9	For viewing on a high-definition TV.

Note

- You cannot set this item when using the following functions:
 - [Sweep Panorama].
 - [3D Sweep Panorama]

Quality

Selects the compression format of still images.

1 [Menu] → [Image Size] → [Quality] → desired mode.

	RAW (RAW)	File format: RAW (Records using the RAW compression format.) This format does not allow you to perform any digital processing on the images. Select this format to process images on a computer for professional purposes. <ul style="list-style-type: none">The image size is fixed to the maximum size. The image size is not displayed on the LCD monitor.
	RAW+J (RAW & JPEG)	File format: RAW (Records using the RAW compression format.) + JPEG A RAW image and a JPEG image are created at the same time. This is suitable when you need two image files, a JPEG for viewing, and a RAW for editing. <ul style="list-style-type: none">The image quality is fixed to [Fine] and the image size is fixed to [L].
✓	FINE (Fine)	File format: JPEG
	STD (Standard)	The image is compressed in the JPEG format when recorded. Since the compression rate of [Standard] is higher than that of [Fine], the file size of [Standard] is smaller than that of [Fine]. This will allow more files to be recorded on one memory card, but the image quality will be lower. <ul style="list-style-type: none">When images are not going to be modified using your computer, we recommend that you select [Fine] or [Standard].

Notes

- You cannot set this item when using the following functions:
 - [Sweep Panorama].
 - [3D Sweep Panorama]
- You cannot add DPOF (print order) registration to RAW format images.
- You cannot use [Auto HDR] with [RAW] and [RAW & JPEG] images.



RAW images

The RAW format file is the raw data yet to go through any kind of digital processing. A RAW file is different from a more common file format such as JPEG in that it is the raw material to be processed for professional purposes.



You need the “Image Data Converter SR” software included on the CD-ROM (supplied) in order to open a RAW image recorded on this camera. With this software, a RAW image can be opened and converted to a common format, such as JPEG or TIFF, and its white balance, color saturation, contrast, etc., can be readjusted.

Panorama Direction





Sets the direction to pan the camera when you shoot 3D Sweep Panorama or Sweep Panorama images.

1 [Menu] → [Image Size] → [Panorama Direction] → desired mode.

3D Sweep Panorama

✓	 (Right)	Pan the camera from the left to the right.
	 (Left)	Pan the camera from the right to the left.

Sweep Panorama

✓	 (Right)	Pan the camera in the direction you set.
	 (Left)	
	 (Up)	
	 (Down)	

ISO

Sets the luminous sensitivity.

1 [Menu] → [Brightness/Color] → [ISO] → desired setting.

✓	ISO AUTO (ISO AUTO)	Sets the ISO sensitivity automatically.
	200/400/800/1600/ 3200/6400/12800	You can set a faster shutter speed, and reduce image blur in dark locations or of moving subjects by increasing ISO sensitivity (select a larger number).

Notes

- [ISO AUTO] is selected when using the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
- The larger the number, the higher the noise level.
- When the exposure mode is set to [Program Auto], [Aperture Priority], [Shutter Priority], and [ISO] is set to [ISO AUTO], ISO is automatically set between ISO 200 and 1600.
- The [ISO AUTO] setting is not provided in [Manual Exposure]. If you change the exposure mode to [Manual Exposure] with the [ISO AUTO] setting, it is switched to 200. Set the ISO according to your shooting conditions.

💡 Adjusting ISO Sensitivity (Recommended Exposure Index)

ISO setting (speed) is the sensitivity to light of recording media that incorporates an image sensor that receives light. Even when the exposure is the same, images differ depending on the ISO setting.



High ISO sensitivity

With high ISO sensitivity, images will be captured with an appropriate brightness even under insufficient exposure. However, increasing ISO sensitivity will cause images to become noisy.



Low ISO sensitivity

You can record smooth images. However, compensation for low ISO sensitivity will be made by slowing down the shutter speed. You should take camera shake or movement of subjects into account, too.










White Balance

Adjusts the color tones according to the ambient light conditions.

Use this feature when the color tone of the image did not come out as you expected, or when you want to change the color tone on purpose for photographic expression.

1 [Menu] → [Brightness/Color] → [White Balance] → desired mode.

To adjust the white balance to suit a specific light source, see the explanation on each mode.

✓	AWB (Auto WB)	The camera automatically detects a light source and adjusts the color tones.
	 (Daylight)	If you select an option to suit a specific light source, the color tones are adjusted for the light source (preset white balance).
	 (Shade)	
	 (Cloudy)	
	 (Incandescent)	
	 (Fluorescent)	
	 (Flash)	
	 (C.Temp./Filter)	Adjusts the white balance depending on the light source (color temperature). Achieves the effect of CC (Color Compensation) filters for photography.
	 (Custom)	Allows to use the white balance setting retained by [Custom Setup].
	 SET (Custom Setup)	Memorizes the basic white color (Custom white balance).





Note

- [Auto WB] is selected when using the following functions:
 - [Intelligent Auto]
 - [Scene Selection]

Effects of lighting conditions

The apparent color of the subject is affected by the lighting conditions.

The color tones are adjusted automatically, but you can adjust color tones manually using the [White Balance] function.

Weather/lighting	Daylight	Cloudy	Fluorescent	Incandescent
Characteristics of light	White (standard)	Bluish	Green-tinged	Reddish
				

Preset white balance (☀️ 🏠 👤 ⚙️ 🌞 WB ⚡)

- 1 [Menu] → [Brightness/Color] → [White Balance] → desired mode.
- 2 As necessary, [Option] → adjust the color tone.
Adjusting it toward + turns the image reddish and adjusting it toward – turns the image bluish.

C.Temp./Filter

- 1 [Menu] → [Brightness/Color] → [White Balance] → [C.Temp./Filter].
- 2 [Option] → desired value.

Color Temp.	The higher the number, the more reddish the image, and the lower the number, the more bluish the image. (The default setting is 5500 K.)
Color Filter	Based on using the set color temperature as the standard, the color can be compensated to G (Green) or M (Magenta). The higher the number, the more the color is compensated. (The default setting is 0.)

Custom white balance

- 1 [Menu] → [Brightness/Color] → [White Balance] → [Custom Setup].
- 2 Hold the camera so that the white area fully covers the AF area located in the center, and then press the shutter button down.
The shutter clicks and the calibrated values (color temperature and color filter) are displayed.
- 3 To call the custom white balance setting, [Menu] → [Brightness/Color] → [White Balance] → [Custom].





Note

- If the flash is used when the shutter button is pressed, a custom white balance is registered with the flash light taken into account. Take pictures with the flash in later shootings.

Metering Mode

Selects the metering mode that sets which part of the subject to measure to determine the exposure.

1 [Menu] → [Brightness/Color] → [Metering Mode] → desired mode.

✓	 (Multi)	Measures light on each area after dividing the total area into multiple areas and determines the proper exposure of the entire screen (Multi-pattern metering).
	 (Center)	Measures the average brightness of the entire screen, while emphasizing the central area of the screen (Center-weighted metering).
	 (Spot)	Measures only the central area (Spot metering). This function is useful when the subject is backlit or when there is strong contrast between the subject and the background.  Spot metering cross hairs position on the subject.

Notes

- If you set [Metering Mode] to other than [Multi], the [Face Detection] function cannot be used.
- [Multi] is selected when using the following functions:
 - Movie recording
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Precision Dig. Zoom]
 - [Smile Shutter]

Flash Compensation

Adjusts the amount of flash light in 1/3 EV steps in a range of -2.0 EV to +2.0 EV. Flash compensation changes the amount of flash light only. Exposure compensation changes the amount of flash light along with the change of the shutter speed and aperture.

- 1 Attach the flash and raise it.
- 2 [Menu] → [Brightness/Color] → [Flash Compensation] → desired value.
Selecting higher values (+ side) makes the flash level higher and images brighter. Selecting lower values (- side) makes the flash level lower and images darker.

Notes

- You cannot use [Flash Compensation] with the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - when no flash is attached
- The higher flash effect may not be visible due to the limited amount of flash light available, if the subject is outside the maximum range of the flash. If the subject is very close, the lower flash effect may not be visible.

💡 Tips to adjust the brightness when shooting people






- It is important to balance the brightness of people against the dark background in night portraits. You can adjust the brightness of people near the camera by changing the flash light intensity.
- If the subject is too far for the flash and still too dark after adjustment, move closer to your subject.

DRO/Auto HDR

Corrects the brightness or contrast.

1 [Menu] → [Brightness/Color] → [DRO/Auto HDR] → desired mode.

	 (Off)	Does not use [DRO/Auto HDR].
✓	 (D-Range Opt.)	By dividing the image into small areas, the camera analyzes the contrast of light and shadow between the subject and the background, producing the image with the optimal brightness and gradation.
	 (Auto HDR)	Shoots three images with different exposures, and then overlays the bright area of the under exposed image and the dark area of the over exposed image to create an image with rich gradation. One image with proper exposure and one overlaid image are recorded.

Note


- You can select [DRO/Auto HDR] only in the following modes:
 - [Manual Exposure]
 - [Shutter Priority]
 - [Aperture Priority]
 - [Program Auto]

D-Range Opt.

Corrects the brightness of the image (DRO: Dynamic Range Optimizer).

1 [Menu] → [Brightness/Color] → [DRO/Auto HDR] → [D-Range Opt.].

2 [Option] → desired value.

✓	 (Auto)	Corrects the brightness automatically.
	Lv1 – Lv5	Optimizes the gradations of a recorded image in each area of the image. Select the optimal level between Lv1 (weak) and Lv5 (strong).


Notes

- [Auto] is selected when using the following functions:
 - [Intelligent Auto]
 - [Portrait], [Landscape], [Macro], [Sports Action] in [Scene Selection]
 - [Picture Effect]
- When shooting with the D-Range optimizer, the image may be noisy. Select the proper level by checking the recorded image, especially when you enhance the effect.


Auto HDR

Widens the range (gradations) so that you can record from bright parts to dark parts in correct brightness (Auto High Dynamic Range). One image with proper exposure and one overlaid image are recorded.

- 1 [Menu] → [Brightness/Color] → [DRO/Auto HDR] → [Auto HDR].
- 2 [Option] → desired value.

✓	 (Auto Exposure Diff.)	Corrects the exposure difference automatically.
	1.0 EV – 6.0 EV	Sets the exposure difference, based on the contrast of the subject. Select the optimal level between 1.0 EV (weak) and 6.0 EV (strong).

Notes

- You cannot start the next shoot until the capture process is completed after you shoot.
- You cannot use this function with [RAW] and [RAW & JPEG] images.
- You cannot select [Auto HDR] during [Smile Shutter]. If you turn on the [Smile Shutter] function with [Auto HDR] selected, the camera will temporarily use the DRO setting.
- Since the shutter is released three times for one shot, be careful about the following:
 - Use this function when the subject is motionless or does not blink.
 - Do not recompose.
- You may not obtain a desired effect depending on the luminance difference of a subject and the shooting conditions.
- When the flash is used, this function has little effect.
- When the contrast of the scene is low or when significant camera shake or subject blur has occurred, you may not obtain good HDR images. If the camera detects such situation,  is indicated on the recorded image to inform you of this situation. Shoot again, as necessary, recomposing or paying attention to the blur.

Creative Style

Allows you to select the desired image processing.

You can adjust exposure (shutter speed and aperture) as you like with [Creative Style], unlike with [Scene Selection] where the camera adjusts the exposure.

- 1 [Menu] → [Brightness/Color] → [Creative Style] → desired mode.
- 2 When you want to adjust contrast, saturation, or sharpness, [Option] → desired setting.

✓	Std. (Standard)	For shooting various scenes with rich gradation and beautiful colors.
	Vivid (Vivid)	The saturation and contrast are heightened for shooting striking images of colorful scenes and subjects such as flowers, spring greenery, blue sky, or ocean views.
	Port. (Portrait)	For shooting the skin color in a soft tone, ideally suited for shooting portraits.
	Land. (Landscape)	The saturation, contrast, and sharpness are heightened for shooting vivid and crisp scenery. Distant landscapes also stand out more.
	Sunset (Sunset)	For shooting the beautiful red of the setting sun.
	B/W (Black & White)	For shooting images in black and white monotone.

① (Contrast), ② (Saturation), and [F] (Sharpness) can be adjusted for each Creative Style item.

① (Contrast)	The higher the value selected, the more the difference of light and shadow is accentuated, thus making an impact on an image.
② (Saturation)	The higher the value selected, the more vivid the color. When a lower value is selected, the color of the image is restrained and subdued.
[F] (Sharpness)	Adjusts the sharpness. The higher the value selected, the more the contours are accentuated, and the lower the value selected, the more the contours are softened.

Notes

- When [Black & White] is selected, you cannot adjust the saturation.
- [Standard] is selected when using the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]

Delete

Allows you to select unwanted images for deletion.

1 [Menu] → [Playback] → [Delete] → desired mode.

✓	Multiple Img.	Deletes the selected images. Press the center to confirm [Select] and [OK].
	All in Folder	Deletes all still images in the folder. This appears during still image playback only.
	All in Date Rng.	Deletes all movies of the date. This appears during movie playback only.

Note

- You can select up to 100 images.



To delete an image

It is easier to delete an image displayed on the screen by selecting [Delete] (page 27).

Slide Show

Plays back images automatically.

Plays back only 3D images in Slide Show on the 3D TV connected to the camera.

1 [Menu] → [Playback] → [Slide Show] → desired mode → [OK].

Repeat		
<input type="checkbox"/>	On	Plays back images in a continuous loop.
<input checked="" type="checkbox"/>	Off	After all the images have been played back, the slide show ends.
Interval		
<input checked="" type="checkbox"/>	1 Sec	Sets the display interval of images. Appears only when playing back still images.
<input type="checkbox"/>	3 Sec	
<input type="checkbox"/>	5 Sec	
<input type="checkbox"/>	10 Sec	
<input type="checkbox"/>	30 Sec	
Image Type		
<input checked="" type="checkbox"/>	All	Plays back all still images on the memory card as normal images.
<input type="checkbox"/>	Display 3D Only	Plays back 3D images only.

Notes

- You cannot pause the slide show. To stop the slide show, press the center of the control wheel.
- You cannot play back still images and movies together. Select either type of image with [Still/Movie Select].
- A panoramic image is displayed in full image. To scroll a panoramic image, first stop the slide show by pressing the center of the control wheel when the image is displayed, and then press the center again.

Still/Movie Select

Selects still images or movies to play back.

1 [Menu] → [Playback] → [Still/Movie Select] → desired mode.

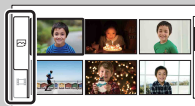
✓	Still	Displays the still image.
	Movie	Displays the movie.

Note

- You cannot display still images and movies on the same index screen.



Switching between the still image and the movie





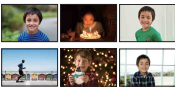

You can switch the image type on the image index easily.
Select  (still image) or  (movie) on the left of the screen (page 37).

Image Index

Selects the number of images to be displayed on the index.

1 [Menu] → [Playback] → [Image Index] → desired mode.

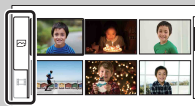
✓	6 Images	Displays six images.	
	12 Images	Displays 12 images.	



Note

- You cannot display still image and movie on the same index screen.



Switching between the still image and the movie

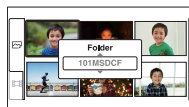


You can switch the image type on the image index easily.
Select  (still image) or  (movie) on the left of the screen.

Select Folder

When multiple folders are created in a memory card, this selects the folder containing the still image you want to play back.

- 1 [Menu] → [Playback] → [Still/Movie Select] → [Still].
- 2 [Menu] → [Playback] → [Select Folder] → desired folder.



Note

- You cannot select this item during movie playback.

Select Date

Movies are stored by date. You can select the date of movies to be played back.

- 1 [Menu] → [Playback] → [Still/Movie Select] → [Movie].
- 2 [Menu] → [Playback] → [Select Date] → desired date.

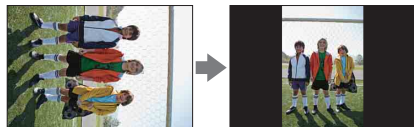


Note

- You cannot select this item during still image playback.

Rotate

Rotates a still image counter-clockwise. Use this to display a horizontal orientation image in vertical orientation. Once you rotate the image, the image is played back in the rotated position, even if you turn off the power.



1 [Menu] → [Playback] → [Rotate] → press the center.


The image rotates counter-clockwise. The image rotates as you press the center.

Notes

- You cannot rotate movies or protected images.
- You may not be able to rotate images shot with other cameras.
- When viewing images on a computer, the image rotation information may not be reflected depending on the software.

Protect

Protects recorded images against accidental erasure.

The  mark is displayed for registered images.

1 [Menu] → [Playback] → [Protect] → desired mode.


✓	Multiple Img.	Applies or cancels the protection of the selected images. Press the center to confirm [Select] and [OK].
	Cancel All Images	Cancels the protection of all still images.
	Cancel All Movies	Cancels the protection of all movies.

Note

- You can protect up to 100 images at a time.

Enlarge Image

You can check the focus by enlarging a portion of the playback image.

- 1 [Menu] → [Playback] → [ Enlarge Image].
- 2 Adjust the scaling by turning the control wheel.
- 3 Select the portion you want to enlarge by pressing the top/bottom/right/left of the control wheel.
- 4 To cancel the operation, press [Exit].

Notes

- You cannot enlarge the movies.
- During playing back panoramic images, pause first, and then enlarge the image.

Scaling range

The scaling range depends on the image size.

Image size	Scaling range
L	Approx. $\times 1.1$ – $\times 14$
M	Approx. $\times 1.1$ – $\times 11$
S	Approx. $\times 1.1$ – $\times 7.3$

Volume Settings

Adjusts the sound volume of movies in eight steps. This item appears during movie playback only.

1 [Menu] → [Playback] → [Volume Settings] → desired value.



Adjusting the volume during playback

The [Volume Settings] screen appears when you press the bottom of the control wheel while playing back movies.

You can adjust the volume, while listening to the actual sound.

Specify Printing

You can specify which and how many copies of still images you shot on the memory card that you want to print out later.

The **DPOF** (Print order) mark is displayed for registered images (DPOF: Digital Print Order Format).

1 [Menu] → [Playback] → [Specify Printing] → desired setting.

DPOF Setup		
✓	Multiple Img.	Selects images to order printing. ① Press the center to select the number of sheets. To cancel DPOF, hold the center down until the DPOF mark turns off. ② Repeat the operation on all images you want to print.
	Cancel All	Clears all DPOF marks.
Date Imprint		
	On	Sets whether or not to date the DPOF marked images when printing them.
✓	Off	

Notes

- You cannot add the DPOF mark to movies.
- You can add the DPOF mark to up to 998 images.
- DPOF registration is not cleared after printing. It is recommended that you clear it after you print the still images.

AF Illuminator

The AF illuminator supplies fill light to focus more easily on a subject in dark surroundings.

The red AF illuminator allows the camera to focus easily when the shutter button is pressed halfway, until the focus is locked.

1 [Menu] → [Setup] → [AF Illuminator] → desired setting.

✓	Auto	Uses the AF illuminator.
	Off	Does not use the AF illuminator.

Notes

- You cannot use the AF illuminator when:
 - [Autofocus Mode] is set to [Continuous AF].
 - [Landscape], [Night View], [Hand-held Twilight] or [Sports Action] in [Scene Selection] is selected.
 - [Sweep Panorama] is selected.
 - [3D Sweep Panorama] is selected.
 - Recording movies.
 - Using an A-mount lens (sold separately).
- When the AF illuminator is used, the setting of [Autofocus Area] is invalid and the AF area is indicated with a dotted line. AF operates with priority on and around the center area.

Red Eye Reduction

When using the flash, it is fired two or more times before shooting to reduce the red-eye phenomenon.

1 [Menu] → [Setup] → [Red Eye Reduction] → desired setting.

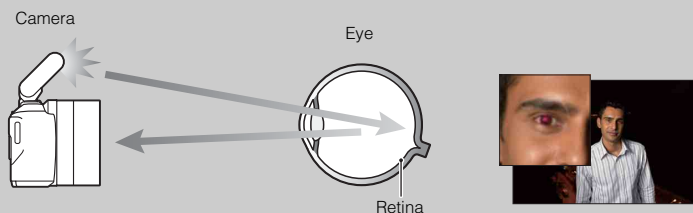
	On	The flash is always fired to reduce the red-eye phenomenon.
✓	Off	Does not use Red Eye Reduction.

Notes

- Attach and raise the flash to use Red Eye Reduction.
- You cannot use [Red Eye Reduction] with [Smile Shutter].
- Red Eye Reduction may not produce the desired effects. It depends on individual differences and conditions, such as distance to the subject, or if the subject looked away from the pre-strobe.

💡 What causes the red-eye phenomenon?

Pupils become dilated in dark environments. Flash light is reflected off the blood vessels at the back of the eye (retina), causing the “red-eye” phenomenon.



Auto Review

You can check the recorded image on the LCD monitor right after the shooting. You can change the displayed time.

1 [Menu] → [Setup] → [Auto Review] → desired setting.

	10 Sec	Displays for the set time.
	5 Sec	
✓	2 Sec	
	Off	Does not display.

Notes

- In auto review, the image will not be displayed in the vertical position even if [Playback Display] is set to [Auto Rotate].
- Even if [Grid Line] is set to [On] when recording [3D Sweep Panorama] or [Sweep Panorama] images, the grid line does not appear in auto review.
- Before the image is displayed, an unprocessed image may be displayed temporarily, depending on the setting, such as [DRO/Auto HDR], [Soft Skin Effect].

Grid Line

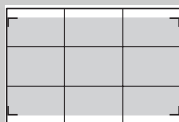
Sets whether the grid line is displayed or not. The grid line will help you to adjust the composition of images.

1 [Menu] → [Setup] → [Grid Line] → desired setting.

	On	Displays the grid line.
✓	Off	Does not display the grid line.



Checking the frame for movie recording



Frame for movie

The frame that appears when [Grid Line] is set to [On] will show to what extent your subject is included in the frame. This enables you to adjust the composition by moving closer or further away from your subject.

Peaking Level

Enhances the outline of in-focus ranges with a specific color in manual focus. This function allows you to confirm the focus easily.

1 [Menu] → [Setup] → [Peaking Level] → desired setting.

	High	Sets the peaking level to high.
	Mid	Sets the peaking level to middle.
	Low	Sets the peaking level to low.
✓	Off	Does not use the peaking function.

Notes

- Since the camera judges that sharp areas are in focus, the peaking level is different, depending on the subject or on the lens used.
- The outline of in-focus ranges is not enhanced when the camera is connected using an HDMI cable.

Peaking Color

Sets the color used for the peaking function in manual focus.

1 [Menu] → [Setup] → [Peaking Color] → desired setting.

✓	White	Enhances outlines in white.
	Red	Enhances outlines in red.
	Yellow	Enhances outlines in yellow.

Note

- This item cannot be set when [Peaking Level] is set to [Off].

Histogram

Sets whether the histogram is displayed or not. The histogram displays the luminance distribution that shows how many pixels of a particular brightness exist in the image.

1 [Menu] → [Setup] → [Histogram] → desired setting.

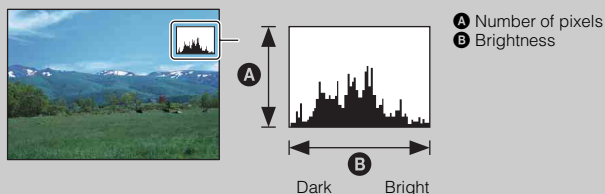
	On	Displays the histogram.
✓	Off	Does not display the histogram.

Note

- You cannot display the histogram in the following modes:
 - Movie recording
 - [Sweep Panorama]
 - [3D Sweep Panorama]

💡 What is histogram

The histogram displays the luminance distribution that shows how many pixels of a particular brightness exist in the picture. Brighter image will make the entire histogram shift to the right side, and darker image to the left side.



MF Assist

Enlarges the image on the screen automatically to make manual-focusing easier. This works in the [Manualfocus] or [DMF] modes.

1 [Menu] → [Setup] → [MF Assist] → desired setting.

2 Turn the focusing ring to adjust the focus.

The image is enlarged by 7.5 times. You can enlarge the image also by 15 times.

- In DMF (Direct Manual Focus), turn the focusing ring with the shutter button pressed halfway down after adjusting the focus with autofocus.

	No Limit	Enlarges the display until [Exit] is selected.
	5 Sec	Enlarges the image for 5 seconds.
✓	2 Sec	Enlarges the image for 2 seconds.
	Off	Does not enlarge the image.

Notes

- You cannot use [MF Assist] with the following functions:
 - Movie recording
 - [Precision Dig. Zoom]
- When an A-mount lens other than the SAM and the SSM (sold separately) is attached, pressing [MF Assist] (soft key) will enlarge the image.
- When an A-mount lens is attached, the display is enlarged until you select [Exit] as in the same way as [No Limit], even if you select [2 Sec] or [5 Sec].

Color Space

The way colors are represented with combinations of numbers or the range of color reproduction is called “color space.” You can change the color space, depending on your purpose.

1 [Menu] → [Setup] → [Color Space] → desired setting.

✓	sRGB	This is the standard color space of the digital camera. Use sRGB in normal shooting, such as when you intend to print out the images without any modification.
	AdobeRGB	This has a wide range of color reproduction. When a large part of the subject is vivid green or red, Adobe RGB is effective. The file name of the image starts with “_DSC.”

Notes

- Adobe RGB is for applications or printers that support color management and DCF2.0 option color space. Using some applications or printers that do not support them may result in or print images that do not faithfully reproduce the color.
- When displaying images that were recorded with Adobe RGB on the camera or non-Adobe RGB-compliant devices, the images are displayed with low saturation.

SteadyShot

Sets whether or not you use the SteadyShot function of the lens.

1 [Menu] → [Setup] → [SteadyShot] → desired setting.

✓	On	Uses SteadyShot.
	Off	Does not use SteadyShot. This setting is recommended when you use a tripod.

Notes

- [On] is selected when using the following functions:
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
- You cannot set [SteadyShot] when the name of the lens attached does not contain “OSS”, such as “E16 mm F2.8,” or when you are using an A-mount lens (sold separately).

Release w/oLens

Sets whether or not the shutter can be released when no lens is attached.

1 [Menu] → [Setup] → [Release w/oLens] → desired setting.

	Enable	Releases the shutter when no lens is attached. Select this when you attach the camera on an astronomical telescope, etc.
✓	Disable	Releases the shutter only when a lens is attached.

Note

- Correct metering cannot be achieved when you use lenses that do not provide a lens contact, such as the lens of an astronomical telescope. In such cases, adjust the exposure manually by checking it on the recorded image.

Long Exposure NR

When you set the shutter speed to a second or longer (Long exposure shooting), noise reduction is turned on for the same duration that the shutter is open. This is to reduce the grainy noise typical in a long exposure.

1 [Menu] → [Setup] → [Long Exposure NR] → desired setting.

✓	On	Activates noise reduction for the same duration that the shutter is open. When noise reduction is in progress, a message appears and you cannot take another picture. Select this to prioritize the image quality.
	Off	Does not activate noise reduction. Select this to prioritize the timing of shooting.

Notes

- Noise reduction is not performed when using the following functions, even when it is set to [On]:
 - [Continuous Adv.]
 - [Speed Priority Cont.]
 - [Bracket: Cont.]
 - [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
- You cannot change [Long Exposure NR] when using the following functions:
 - [Intelligent Auto]
 - [Scene Selection]
 - [Picture Effect]
 - [Anti Motion Blur]
 - [Sweep Panorama]
 - [3D Sweep Panorama]

High ISO NR

When shooting with the high ISO, the camera reduces the noise that becomes more noticeable when the camera sensitivity is high.

1 [Menu] → [Setup] → [High ISO NR] → desired setting.

✓	Auto	Activates high ISO noise reduction automatically.
	Weak	Activates high ISO noise reduction moderately.

Notes

- You cannot set [High ISO NR] when using the following functions:
 - [Sweep Panorama]
 - [3D Sweep Panorama]
- Noise reduction will not be carried out on RAW images.

Movie Audio Rec

Sets whether or not you record the sound during movie recording.

1 [Menu] → [Setup] → [Movie Audio Rec] → desired setting.

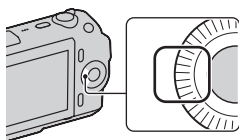
✓	On	Records sound (stereo).
	Off	Does not record sound.

Note

- The sound of the lens and the camera in operation will also be recorded, when [On] is selected.

Left Key Setting

Assigns a function to the left key on the control wheel.



1 [Menu] → [Setup] → [Left Key Setting] → desired setting.

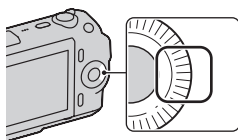
	Shoot Mode
	Shoot. Tips
	Drive Mode
	AF/MF Select
	Autofocus Mode
	Autofocus Area
	Precision Dig. Zoom
	ISO
	White Balance
	Metering Mode
	DRO/Auto HDR
	Creative Style
	Flash Mode
	Flash Compensation
	MF Assist
✓	Not set

Notes

- A function that has been assigned on the left key on the control wheel is called only when [Shoot Mode] is set to [Program Auto], [Aperture Priority], [Shutter Priority], or [Manual Exposure].
- [MF Assist] is available only when [AF/MF Select] is set to [DMF] or [Manuafocus]. When [DMF] is selected, operate the camera with the shutter button pressed halfway down after adjusting the focus with autofocus.

Right Key Setting

Assigns a function to the right key on the control wheel.



1 [Menu] → [Setup] → [Right Key Setting] → desired setting.

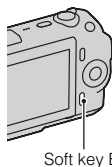
	Shoot Mode
	Shoot. Tips
	Drive Mode
	AF/MF Select
	Autofocus Mode
	Autofocus Area
	Precision Dig. Zoom
	ISO
	White Balance
	Metering Mode
	DRO/Auto HDR
	Creative Style
	Flash Mode
	Flash Compensation
	MF Assist
✓	Not set

Notes

- A function that has been assigned on the right key on the control wheel is called only when [Shoot Mode] is set to [Program Auto], [Aperture Priority], [Shutter Priority], or [Manual Exposure].
- [MF Assist] is available only when [AF/MF Select] is set to [DMF] or [Manuafocus]. When [DMF] is selected, operate the camera with the shutter button pressed halfway down after adjusting the focus with autofocus.

Soft key B Setting

Assigns a function to soft key B.



1 [Menu] → [Setup] → [Soft key B Setting] → desired setting.

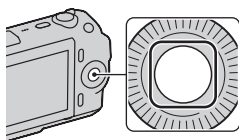
	Shoot Mode
✓	Shoot. Tips
	Drive Mode
	AF/MF Select
	Autofocus Mode
	Precision Dig. Zoom
	ISO
	White Balance
	Metering Mode
	DRO/Auto HDR
	Creative Style
	Flash Mode
	Flash Compensation
	MF Assist

Notes

- A function that has been assigned on soft key B is called only when [Shoot Mode] is set to [Program Auto], [Aperture Priority], [Shutter Priority], or [Manual Exposure].
- [MF Assist] is available only when [AF/MF Select] is set to [DMF] or [Manuafocus]. When [DMF] is selected, operate the camera with the shutter button pressed halfway down after adjusting the focus with autofocus.
- When [Autofocus Area] is set to [Flexible Spot], the setting of [Soft key B Setting] is invalid.
- When an A-mount lens other than the SAM and the SSM (sold separately) is attached, the setting of [Soft key B Setting] is invalid.

Soft key C Setting

Assigns a function to soft key C.

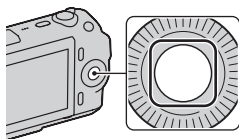


- 1 [Menu] → [Setup] → [Soft key C Setting] → desired setting.

✓	Shoot Mode	
	Custom	Calls a function assigned to [Custom 1], [Custom 2], [Custom 3], [Custom 4], or [Custom 5].

Calling a function assigned to [Custom] of soft key C

- 1 Press soft key C when [Custom] is displayed.
- 2 Select [Custom 1], [Custom 2], [Custom 3], [Custom 4], or [Custom 5] by pressing the right/left of the control wheel.

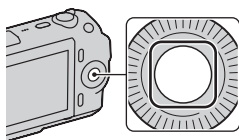


Note

- A function that has been assigned on soft key C is called only when [Shoot Mode] is set to [Program Auto], [Aperture Priority], [Shutter Priority], or [Manual Exposure].

Custom

Assigns a function to the [Custom 1] to [Custom 5] of soft key C.



- 1 [Menu] → [Setup] → [Custom 1], [Custom 2], [Custom 3], [Custom 4], or [Custom 5] → desired setting.

The default setting of each [Custom] item	Available functions
	Drive Mode
	AF/MF Select
	Autofocus Mode
	Autofocus Area
[Custom 1]	ISO
[Custom 2]	White Balance
	Metering Mode
[Custom 3]	DRO/Auto HDR
	Creative Style
	Flash Mode
[Custom 4]/[Custom 5]	Not set

Notes

- A function that has been assigned on soft key C is called only when [Shoot Mode] is set to [Program Auto], [Aperture Priority], [Shutter Priority], or [Manual Exposure].
- You do not have to set up all the [Custom 1], [Custom 2], [Custom 3], [Custom 4], and [Custom 5] items.

Menu start

Allows you to select whether to always display the first screen of the menu or to display the screen of the item you set the last time.

1 [Menu] → [Setup] → [Menu start] → desired setting.

	Top	Always displays the first screen of the menu.
✓	Previous	Displays the last item set. This will make it easier to quickly reset the last item you set previously.

Beep

Selects the sound produced when you operate the camera.

1 [Menu] → [Setup] → [Beep] → desired setting.

	AF Sound	The audio signals will sound only when the subject is in focus, and during self-timer countdown.
✓	High	Turns on audio signals when you press the control wheel, or soft keys. If you want to lower the volume, select [Low].
	Low	
	Off	Turns off the audio signal.

Language

Selects the language to be used in the menu items, warnings and messages.


1 [Menu] → [Setup] → [ Language] → desired language.

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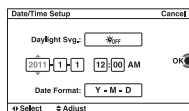
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Date/Time Setup

Sets the date and time again.

1 [Menu] → [Setup] → [Date/Time Setup].

2 Set the date, time, etc.



Daylight Svc.	Selects [ON] or [OFF].
Date Format	Selects the date and time display format.

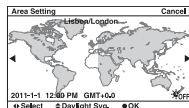
Note

- The camera does not have a feature for superimposing dates on images. By using “PMB” in the CD-ROM (supplied), you can print or save images with the date.

Area Setting

Sets the area where you are using the camera. This allows you to set the local area when you use the camera abroad.

- 1 [Menu] → [Setup] → [Area Setting] → desired setting.
- 2 Press the right or left of the control wheel to select an area.



Help Guide Display

You can select whether or not the help guide is displayed when you operate the camera.

1 [Menu] → [Setup] → [Help Guide Display] → desired setting.

✓	On	Displays the help guide.
	Off	Does not display the help guide. This is convenient when you want to perform the next operation quickly.

Power Save

You can set time intervals for the camera to switch to power save mode. Pressing the shutter button halfway down returns the camera to the shooting mode.

1 [Menu] → [Setup] → [Power Save] → desired setting.

✓	1 Min	Switches to power save mode after the set time.
	5 Min	
	10 Min	
	30 Min	

Note

- Turn off the camera when you do not use it for a long time.

LCD Brightness

The brightness of the LCD monitor is automatically adjusted to the ambient lighting conditions using the light sensor (page 11). You can set the brightness of the LCD monitor manually.

1 [Menu] → [Setup] → [LCD Brightness] → desired setting.

✓	Auto	Adjust the brightness automatically.
	Manual	Allows you to adjust the brightness within the range of -2 to +2.
	Sunny Weather	Automatically adjusts the brightness appropriately for shooting outdoors.

Notes

- When this is set to [Auto], do not cover the light sensor with your hand and so on.
- When using the camera with the AC-PW20 AC Adaptor (sold separately), the brightness of the LCD monitor is always set as bright as +2 even if you select [Auto].

Display Color

Selects the color of the LCD monitor.

1 [Menu] → [Setup] → [Display Color] → desired setting.

	Black	Turns to the selected color.
✓	White	
	Blue	
	Pink	

Wide Image

Selects the method used for displaying the wide images.

1 [Menu] → [Setup] → [Wide Image] → desired setting.



	Full Screen	Displays the wide images on the entire screen.	
✓	Normal	Displays the wide images and the operation information on the screen.	

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Playback Display

Selects the orientation when playing back still images recorded in the portrait position.

1 [Menu] → [Setup] → [Playback Display] → desired setting.

✓	Auto Rotate	Displays in the portrait position.
	Manual Rotate	Displays in the landscape position.

Note

- When you play back the image on a TV or a computer, the image will be displayed in the portrait position even if [Manual Rotate] is selected.

CTRL FOR HDMI

When connecting the camera to a “BRAVIA” Sync compatible TV with an HDMI cable (sold separately), you can play back images on your camera by the TV’s remote control aiming at the TV. See page 140 on “BRAVIA” Sync.

1 [Menu] → [Setup] → [CTRL FOR HDMI] → desired setting.

<input checked="" type="checkbox"/>	On	Operates the camera with the TV remote control.
<input type="checkbox"/>	Off	Does not operate the camera with the TV remote control.

Note

- You can perform the operation of the camera with the remote control of your TV by connecting your camera to a “BRAVIA” Sync compatible TV.

USB Connection

Selects the method used for a USB connection.

1 [Menu] → [Setup] → [USB Connection] → desired setting.

✓	Mass Storage	Establishes a Mass Storage connection between the camera, a computer, and other USB devices. Standard mode.
	PTP	When you connect the camera to a computer, the AutoPlay Wizard appears, and the still images in the recording folder on the camera are imported to the computer (with Windows 7/Vista/XP, Mac OS X).

Note

- You cannot import movies and RAW images with [PTP].

Cleaning Mode

Allows you to clean the image sensor.

- 1 [Menu] → [Setup] → [Cleaning Mode] → [OK].

The message “After cleaning, turn camera off. Continue?” appears.

- 2 Confirm [OK].

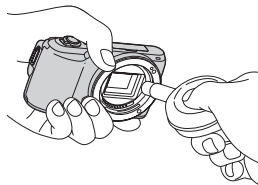
The anti-dust is activated automatically.

- 3 Turn the camera off.


- 4 Detach the lens.

- 5 Use the blower to clean the image sensor surface and the surrounding area.

- 6 Attach the lens.



Notes


- Cleaning can be performed only when the battery level is  (three remaining battery icons) or more. The use of an AC-PW20 AC Adaptor (sold separately) is recommended.
- Do not use a spray blower because it may scatter water droplets inside the camera body.
- Do not put the tip of a blower into the cavity beyond the mount, so that the tip of the blower does not touch the image sensor.
- Hold the camera's face downward to prevent the dust from resettling in the camera.
- Do not apply a mechanical shock to the camera during cleaning.

Version

Displays the version of your camera and lens. Confirm the version when a firmware update is released.

1 [Menu] → [Setup] → [Version].

Note

- An update can be performed only when the battery level is  (three remaining battery icons) or more. We recommend that you use a sufficient battery or the AC-PW20 AC Adaptor (sold separately).

Demo Mode

The [Demo Mode] function displays the movies recorded on the memory card automatically (demonstration), when the camera has not been operated for a certain time. Normally select [Off].

1 [Menu] → [Setup] → [Demo Mode] → desired setting.

	On	The demonstration begins automatically when the camera is not operated for about one minute.
✓	Off	Does not show the demonstration.

Notes

- Even if [On] is selected, the camera does not start a demonstration when there is no movie recorded on the memory card.
- When [On] is selected, the camera does not switch to power save mode.

Reset Default

Initializes the setting to the default setting.

Even if you activate [Reset Default], the images are retained.

1 [Menu] → [Setup] → [Reset Default] → [OK].

Notes

- Be sure not to turn off the camera while resetting.
- The settings of [Date/Time Setup] and [Area Setting] are not reset.

Format

Formats the memory card. When you use a memory card with this camera for the first time, it is recommended to format the card using the camera for stable performance of the memory card before shooting. Note that formatting permanently erases all data on the memory card, and is unrecoverable. Save precious data on a computer, etc.

1 [Menu] → [Setup] → [Format] → [OK].

Notes

- Formatting permanently erases all data including even protected images.
- During the format, the access lamp lights up. Do not eject the memory card while the lamp is lit.
- Format the memory card using the camera. If you format it on a computer, the memory card may not be usable with the camera, depending on the format type used.

File Number

Selects the method for assigning file numbers to images.

1 [Menu] → [Setup] → [File Number] → desired setting.

✓	Series	The camera does not reset numbers, and assigns numbers to files in sequence until the number reaches "9999."
	Reset	<p>The camera resets numbers in the following cases and assigns numbers to files from "0001." When the recording folder contains a file, a number incremented one higher than the largest number is assigned.</p> <ul style="list-style-type: none">• When the folder format is changed.• When all the images in the folder are deleted.• When the memory card is replaced.• When the memory card is formatted.

Folder Name

Still images you shoot are recorded in a folder that is automatically created under the DCIM folder on the memory card. You can change the folder name form.

1 [Menu] → [Setup] → [Folder Name] → desired setting.

✓	Standard Form	The folder name form is as follows: folder number + MSDCF. Example: 100MSDCF
	Date Form	The folder name form is as follows: folder number + Y (the last digit)/MM/DD. Example: 10010405 (Folder name: 100, date: 04/05/2011)

Note

- The movie folder form is fixed as “folder number + MNV01”. You cannot change this name.

Select Shoot. Folder

When a standard form folder is selected and there are two or more folders, you can select the recording folder to be used to record still images.

1 [Menu] → [Setup] → [Select Shoot. Folder] → desired folder.

Note

- You cannot select the folder when you select the [Date Form] setting.

New Folder

Creates a folder in the memory card for recording images.

Images are recorded in the newly created folder until you create another folder or select another recording folder.

1 [Menu] → [Setup] → [New Folder] → [OK].

A new folder is created with a number incremented one higher than the largest number currently used.

Notes

- A folder for still images and a folder for movies that have the same number are created at the same time.
- When you insert a memory card that was used with other equipment into the camera and shoot images, a new folder may be automatically created.
- Up to 4,000 images in total can be stored in the folders for still images or movies, respectively, with the same number. When the folder capacity is exceeded, a new folder is created automatically.

Recover Image DB

When inconsistencies are found in the image database file of movies, caused by processing movies on computers, etc., movies on the memory card will not be played back in this form. If this happens, the camera repairs the file.

1 [Menu] → [Setup] → [Recover Image DB] → [OK].

The [Recover Image DB] screen is displayed, and the camera repairs the file.

Wait as it is until repairing is completed.

Note

- Use a sufficiently charged battery. Low battery power during repairing can cause damage to data.

Display Card Space

Displays the remaining recording time of movies on the memory card. Number of recordable still images is also displayed.

1 [Menu] → [Setup] → [Display Card Space].

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Upload Settings

Sets whether or not you use the upload function when using an Eye-Fi card (commercially available). This item appears when an Eye-Fi card is inserted in the camera.

1 [Menu] → [Setup] → [Upload Settings] → desired setting.

	On	Enables the upload function. The icon on the screen changes according to the communication status of the camera.  Standby. No images are to be sent.  Connecting.  Upload standby.  Uploading.  Error
	Off	Disables the upload function.

Notes

- Eye-Fi cards can be used only in the countries/regions where they were purchased. Use Eye-Fi cards in accordance with the law of the countries/regions where you purchased the card.
- Do not use an Eye-Fi card inserted in the camera on an airplane. If there is an Eye-Fi card inserted in the camera, set [Upload Settings] to [Off].  is displayed on the screen when [Upload Settings] is set to [Off].

Transferring images using an Eye-Fi card



1 Set your Wi-Fi network or destination on the Eye-Fi card.

For details, refer to the manual supplied with the Eye-Fi card.

2 Insert the Eye-Fi card you have set up into the camera, and shoot still images.

Images are transferred to your computer, etc., automatically via the Wi-Fi network.

Notes

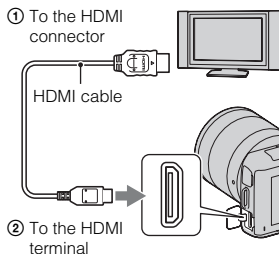
- When you use a brand-new Eye-Fi card for the first time, copy the install file of Eye-Fi manager recorded on the card to your computer before formatting the card.
- Use an Eye-Fi card after updating the firmware to the latest version. For details, refer to the manual that comes with the Eye-Fi card.
- The power save function of the camera does not work while it is transferring images.
- If  (error) is displayed, remove the memory card and reinsert it, or turn off then turn on the power again. If  appears again, the Eye-Fi card may be damaged.
- Wi-Fi network communication may be influenced by other communication devices. If the communication status is poor, move closer to the access point of the Wi-Fi network.
- You cannot upload movies.

Viewing images on a TV

To view images recorded on the camera on a TV, an HDMI cable (sold separately) and an HD TV equipped with an HDMI connector are required. Refer also to the operating instructions supplied with the TV.

- 1 Turn off both your camera and the TV.
- 2 Connect the camera to the TV with an HDMI cable (sold separately).
- 3 Turn on the TV and switch the input.
- 4 Turn on the camera.

Images shot with the camera appear on the TV screen.
Select the desired image with the control wheel.



Notes

- Some devices may not work properly.
- Use an HDMI cable with the HDMI logo.
- Use an HDMI mini connector on one end (for the camera), and a plug suitable for connecting your TV on the other end.
- If you record movies when the camera is connected to a TV with an HDMI cable, recording will be stopped after a while automatically to protect the devices.
- Do not connect the output connector of the device with the HDMI terminal on the camera. This may cause a malfunction.
- Even if the Peaking function is activated, the outline of in-focus ranges is not enhanced when the camera is connected using an HDMI cable.

💡 On “PhotoTV HD”

This camera is compatible with the “PhotoTV HD” standard.

By connecting Sony’s PhotoTV HD-compatible devices using an HDMI cable (sold separately), a whole new world of photos can be enjoyed in breathtaking Full HD quality. “PhotoTV HD” allows for a highly-detailed, photo-like expression of subtle textures and colors. For details, refer to the operating instructions supplied with the TV.

Using “BRAVIA” Sync

By connecting the camera to a TV that supports “BRAVIA” Sync using an HDMI cable (sold separately), you can operate the camera with the TV Remote Control.

1 Connect a TV that supports “BRAVIA” Sync to the camera.

The input is automatically switched and the image shot with the camera appears on the TV screen.

2 Press the SYNC Menu button on the TV Remote Control.

3 Operate with the buttons on the TV Remote Control.

Item	Operation
Slide Show	Plays back images automatically
Play 1 Image	Returns to the single-image screen.
Still/Movie Select	Selects still image or movie to be played back.
Image Index	Switches to the image index screen.
Select Folder	Selects the folder of images to be played back.
Select Date	Selects the date of movies to be played back.
Delete	Deletes the image.

Notes

- The operations available are restricted when the camera is connected to a TV using an HDMI cable.
- Only TVs that support “BRAVIA” Sync can provide SYNC Menu operations. The SYNC Menu operations differ depending on the TV connected. For details, refer to the operating instructions supplied with the TV.
- If the camera performs unnecessary operations in response to the TV Remote Control when the camera is connected to another manufacturer’s TV using an HDMI connection, operate [Menu] → [Setup] → [CTRL FOR HDMI] → [Off].

3D Viewing

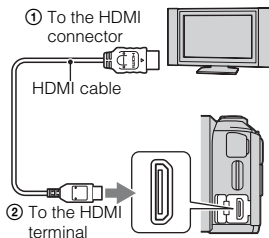
To view 3D panorama images recorded on the camera on a 3D TV, set as follows.

1 Connect the camera to the 3D TV using an HDMI cable (sold separately).

2 [Menu] → [Playback] → [3D Viewing] → [OK].

3D panorama images shot with the camera appear on the TV screen.

When [Standard] or [Wide] is selected, you can scroll 3D panorama images by pressing the center of the control wheel.



Notes

- When you select [3D Viewing] mode, only 3D images are displayed.
- Do not connect the camera and equipment to be connected using output terminals. When the camera and TV are connected using output terminals, no video and sound are produced. Such connection can also cause trouble of the camera and/or connected equipment.
- This function may not work properly with some TVs. For example, you may not be able to view a video on your TV, output in 3D mode or hear sound from the TV.
- Use an HDMI cable with the HDMI logo.
- Use an HDMI mini connector on one end (for the camera), and a plug suitable for connecting your TV on the other end.

To view normal still images on a TV

If you select [3D Viewing], only 3D images are displayed on the TV.

To view normal still images, press the bottom of the control wheel to finish [3D Viewing].

To return to 3D, press the bottom of the control wheel again.

To display the image index, select [Menu] → [Playback] → [Image Index].

Using with your computer

Following applications are contained on the CD-ROM (supplied) to allow more versatile use of images shot with your camera.

- Sony Image Data Suite
 - “Image Data Converter SR”
 - “Image Data Lightbox SR”
- “PMB” (Picture Motion Browser)

Notes

- “PMB” is not compatible with Macintosh computers.
- If you have installed the same software, but with a lower version number than the one on the CD-ROM, on your computer, install the software from the supplied CD-ROM, also.

Recommended computer environment (Windows)

The following computer environment is recommended when using the supplied software and importing images via a USB connection.

OS (pre-installed)	Microsoft Windows XP* ¹ SP3/Windows Vista* ² SP2/Windows 7
“PMB”	CPU: Intel Pentium III 800 MHz or faster (For playing/editing the movies: Intel Core Duo 1.66 GHz or faster /Intel Core 2 Duo 1.20 GHz or faster) Memory: 512 MB or more (For playing/editing the High Definition movies: 1 GB or more) Hard Disk: Disk space required for installation—approximately 500 MB Display: Screen resolution—1024 × 768 dots or more
“Image Data Converter SR Ver.3” “Image Data Lightbox SR”	CPU/Memory: Pentium 4 or faster/1 GB or more Display: 1024 × 768 dots or more

*¹ 64-bit editions and Starter (Edition) are not supported.

*² Starter (Edition) is not supported.

Recommended computer environment (Macintosh)

The following computer environment is recommended when using the supplied software and importing images via a USB connection.

OS (pre-installed)	USB Connection: Mac OS X (v10.3 to v10.6) “Image Data Converter SR Ver.3”/“Image Data Lightbox SR”: Mac OS X v10.4/Mac OS X v10.5/ Mac OS X v10.6 (Snow Leopard)
“Image Data Converter SR Ver.3” “Image Data Lightbox SR”	CPU: Power PC G4/G5 series (1.0 GHz or faster is recommended)/Intel Core Solo/Core Duo/Core 2 Duo or faster Memory: 1 GB or more is recommended. Display: 1024 × 768 dots or more

Notes

- Operation is not assured in an environment based on an upgrade of the operating systems described above or in a multi-boot environment.
- If you connect two or more USB devices to a single computer at the same time, some devices, including the camera, may not operate, depending on the types of USB devices you are using.
- Connecting the camera using a USB interface that is compatible with Hi-Speed USB (USB 2.0) allows advanced transfer (high speed transfer), as the camera is compatible with Hi-Speed USB (USB 2.0).
- When your computer resumes activity from suspend or sleep mode, communication between the camera and your computer may not recover at the same time.


Using the software

Installing the software (Windows)

Log on as Administrator.

- 1 Turn on your computer, and insert the CD-ROM (supplied) into the CD-ROM drive.

The installation menu screen appears.

- If it does not appear, double-click [Computer] (For Windows XP: [My Computer]) →  (SONYPMB) → [Install.exe].
- If the AutoPlay screen appears, select “Run Install.exe” and follow the instructions that appear on the screen to proceed with the installation.

- 2 Click [Install].

Make sure that both “Sony Image Data Suite” and “PMB” are checked and follow the instructions on the screen.

- Connect the camera to the computer during the procedure following the instructions on the screen (page 147). If you do not connect the camera to the computer, some functions may not work, such as the importing images function.
- Restarting the computer may be required. When the restarting confirmation message appears, restart the computer following the instructions on the screen.
- DirectX may be installed depending on the system environment of your computer.

- 3 Remove the CD-ROM after the installation is complete.

The following software is installed and shortcut icons appear on the desktop.

“Image Data Converter SR”

“Image Data Lightbox SR”

“PMB”

“PMB Launcher”

“PMB Help”

Notes

- If “PMB” has already been installed on the computer, and the version number of the previously installed “PMB” is lower than that of the “PMB” on the CD-ROM (supplied), install “PMB” also from the CD-ROM (supplied).
- If a version of “PMB” under 5.0.00 has been installed on your computer, you may be unable to use some functions of those “PMB” when installing the “PMB” from the supplied CD-ROM. Also, “PMB Launcher” is installed from the supplied CD-ROM and you can start “PMB” or other software by using the “PMB Launcher.” Double-click the “PMB Launcher” short-cut icon on the computer screen to start “PMB Launcher.”

Installing the software (Macintosh)

Log on as Administrator.

- 1 Turn on your Macintosh computer, and insert the CD-ROM (supplied) into the CD-ROM drive.
- 2 Double-click the CD-ROM icon.
- 3 Copy the [IDS_INST.pkg] file in the [MAC] folder to the hard disk icon.
- 4 Double-click the [IDS_INST.pkg] file in the copy-to folder.

Follow the instructions on the screen to complete the installation.

Using “Image Data Converter SR”

With “Image Data Converter SR” you can do the following, etc.:

- To edit images recorded in RAW format with various corrections, such as tone curve, and sharpness.
- To adjust images with white balance, exposure, and creative style, etc.
- To save the images displayed and edited on a computer.

You can either save the image as RAW format or save it in the general file format.



To use “Image Data Converter SR”

Refer to Help.

Click [Start] → [All Programs] → [Sony Image Data Suite] → [Help] → [Image Data Converter SR Ver.3].

“Image Data Converter SR” support page (English only)

<http://www.sony.co.jp/ids-se/>

Using “Image Data Lightbox SR”

With “Image Data Lightbox SR” you can do the following, etc.:

- To display and compare RAW/JPEG images recorded with this camera.
- To rate the images on a scale of five.
- To set color labels and so on.
- To display an image with “Image Data Converter SR” and make adjustments to it.

To use “Image Data Lightbox SR”

Refer to Help.

Click [Start] → [All Programs] → [Sony Image Data Suite] → [Help] → [Image Data Lightbox SR].

“Image Data Lightbox SR” support page (English only)

<http://www.sony.co.jp/ids-se/>

Using “PMB”

With “PMB” you can do the following, etc.:


- To set images shot with the camera and display them on the computer.
- To organize images on the computer on a calendar by shooting date to view them.
- To retouch (Red Eye Correction, etc.), print, and send still images as e-mail attachments, change the shooting date and more.
- To print or save still images with the date.

Note

- “PMB” is not compatible with Macintosh computers.

To use “PMB”

Refer to “PMB Help.”


Double-click the shortcut of  (PMB Help) on the desktop. Or, click [Start] → [All Programs] → [PMB] → [PMB Help].

“PMB” support page (English only)

<http://www.sony.co.jp/pmb-se/>

Connecting the camera to the computer

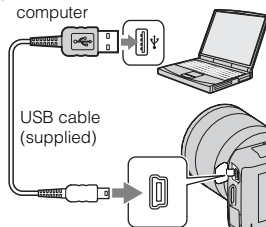
- 1 Insert a sufficiently charged battery pack into the camera, or connect the camera to a wall outlet (wall socket) using the AC-PW20 AC Adaptor (sold separately).

- 2 Turn on the computer, then press the  (Playback) button.

- 3 Connect the camera to your computer.

When a USB connection is established for the first time, your computer automatically runs a program to recognize the camera. Wait for a while.

① To a USB terminal of the computer



② To the USB terminal

Importing images to the computer (Windows)

“PMB” allows you to easily import images.

For details on “PMB” functions, see the “PMB Help.”

Importing images to the computer without using “PMB”

When the AutoPlay Wizard appears after making a USB connection between the camera and a computer, click [Open folder to view files] → [OK] → [DCIM] or [MP_ROOT] → copy the desired images to the computer.

Importing images to the computer (Macintosh)


- 1 Connect the camera to your Macintosh computer first. Double-click the newly recognized icon on the desktop → the folder where the images you want to import are stored.
- 2 Drag and drop the image files to the hard disk icon.
The image files are copied to the hard disk.
- 3 Double-click the hard disk icon → the desired image file in the folder containing the copied files.

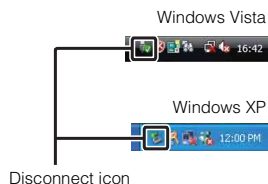
The image is displayed.

Deleting the USB connection

Perform the procedures from step 1 to 3 below before:

- Disconnecting the USB cable.
- Removing the memory card.
- Turning off the camera.

- 1 Double-click the disconnect icon on the tasktray.
- 2 Click  (USB Mass Storage Device) → [Stop].
- 3 Confirm the device on the confirmation window, then click [OK].



Note

- Drag and drop the icon of the memory card or the drive icon to the “Trash” icon beforehand when you use a Macintosh computer, and the camera is disconnected from the computer.

Printing still images

You can print still images using the following methods.

- Printing directly using a printer which supports your memory card type
For details, see the operating instructions supplied with the printer.
- Printing using a computer
You can import images to a computer using the supplied “PMB” software and print the images. You can insert the date on the image and print it. For details, see the “PMB Help.”
- Printing at a shop
You can take a memory card containing images shot with the camera to a photo printing service shop. As long as the shop supports photo printing services conforming to DPOF, you can make a **DPOF** (Print order) mark on images in advance in the playback mode so that you do not have to reselect them when you print them out at the shop.

Notes

- You cannot print RAW images.
- When you print images shot in [16:9] mode, both edges may be cut off.
- You cannot print panoramic images depending on the printer.
- When you print at a shop, note the followings.
 - Consult your photo printing service shop as to what types of memory card they handle.
 - A memory card adaptor (sold separately) may be necessary. Consult your photo printing service shop.
 - Before you take image data to a shop, always copy (back up) your data to a disk.
 - You cannot set the number of prints.
 - If you want to superimpose dates on images, consult your photo printing service shop.

Troubleshooting

If you experience trouble with the camera, try the following solutions.

- 1 Check the items on pages 150 to 155.**
- 2 Remove the battery pack, wait for about one minute, re-insert the battery pack, then turn on the power.**
- 3 Reset the settings (page 130).**
- 4 Consult your Sony dealer or local authorized Sony service facility.**

Battery pack and power

The battery pack cannot be installed.

- When you insert the battery pack, use the tip of the battery pack to push the lock lever.
- You can use an NP-FW50 battery pack only. Make sure that the battery is NP-FW50.

The remaining battery indicator is incorrect, or sufficient remaining battery indicator is displayed but the power runs out too quickly.

- This phenomenon occurs when you use the camera in an extremely hot or cold location.
- The battery pack is discharged. Install a charged battery pack.
- The battery pack is dead. Replace it with a new one.

Cannot turn on the camera.

- Install the battery pack correctly.
- The battery pack is discharged. Install a charged battery pack.
- The battery pack is dead. Replace it with a new one.

The power turns off suddenly.

- When the camera or battery pack is too warm, the camera displays a warning message and turns off automatically to protect the camera.
- If you do not operate the camera for given period of time, the camera turns to power saving mode. To cancel the power save, operate the camera, such as pressing the shutter button halfway down (page 120).

The CHARGE lamp flashes when charging the battery pack.

- You can use an NP-FW50 battery pack only. Make sure that the battery is NP-FW50.
- If you charge a battery pack that has not been used for a long time, the CHARGE lamp may flash.
- The CHARGE lamp flashes in two ways, fast (about 0.15-second intervals) and slow (about 1.5-second intervals). If it is flashing fast, remove the battery pack and reattach the same battery pack securely. If the CHARGE lamp flashes fast again, it suggests that there is something wrong with the

battery pack. Slow flashing indicates that charging is suspended because the ambient temperature is outside the suitable range for charging the battery pack. Charging will resume and the CHARGE lamp will be lit when the ambient temperature returns to within the suitable temperature.

- Charge the battery pack under the suitable temperatures between 10 °C and 30 °C (50 °F and 86 °F).

Shooting images

Nothing is displayed on the LCD monitor when the power is turned on.

- If you do not operate the camera for given period of time, the camera turns to power saving mode. To cancel the power save, operate the camera, such as pressing the shutter button halfway down (page 120).

The shutter does not release.

- You are using a memory card with a write-protect switch, and the switch is set to the LOCK position. Set the switch to the recording position.
- Check the free capacity of the memory card.
- You cannot record images while charging the flash.
- The lens is not attached properly. Attach the lens properly.

Recording takes a long time.

- The noise reduction function is turned on (pages 106, 107). This is not a malfunction.
- You are shooting in RAW mode (page 74). Since the RAW data file is large, the RAW mode shooting may take time.
- The Auto HDR is processing an image (page 82).

The image is out of focus.

- The subject is too close. Check the minimum focal distance of the lens.
- You are shooting in manual focus mode. Set [AF/MF Select] to [Autofocus] (page 61).
- Ambient light is insufficient.
- The subject may require special focusing. Use the [Flexible Spot] (page 63) or manual focus function (page 61).

The flash does not work.

- Raise the flash.
- The flash is not attached correctly. Reattach the flash.
- You cannot use a flash with the following recording mode:
 - [Bracket: Cont.]
 - [Sweep Panorama]
 - [3D Sweep Panorama]
 - [Night View] and [Hand-held Twilight] in [Scene Selection]
 - [Anti Motion Blur]
 - Movie recording

Fuzzy white circular spots appear on images shot using the flash.

- Particles (dust, pollen, etc.) in the air reflected the flash light and appeared on the image. This is not a malfunction.

The flash takes too long to recharge.

- The flash has been fired in succession in a short period. When the flash has been fired in succession, the recharging process may take longer than usual to avoid overheating of the camera.

The image taken with the flash is too dark.

- If the subject is beyond the flash range (the distance that the flash can reach), the pictures will be dark because the flash light does not reach the subject. If the ISO is changed, the flash range also changes with it.

The date and time are recorded incorrectly.

- Set the correct date and time (page 117).
- The area selected with [Area Setting] is different from the actual area. Set the actual area by selecting [Menu] → [Setup] → [Area Setting].

The aperture value and/or shutter speed flashes when you press the shutter button halfway down.

- Since the subject is too bright or too dark, it is beyond the available range of the camera. Adjust the setting again.

The image is whitish (Flare).**Blurring of light appears on the image (Ghosting).**

- The picture was taken under a strong light source, and excessive light has entered the lens. When using the zoom lens, attach a lens hood.

The corners of the picture are too dark.

- If any filter or hood is used, take it off and try shooting again. Depending on the thickness of the filter and improper attachment of the hood, the filter or the hood may partially appear in the image. The optical properties of some lenses may cause the periphery of the image to appear too dark (insufficient light).

The eyes of the subject come out red.

- Activate the Red Eye Reduction function (page 96).
- Get close to the subject, and shoot the subject within the flash range using the flash.

Dots appear and remain on the LCD monitor.

- This is not a malfunction. These dots are not recorded.

The image is blurred.

- The picture was taken in a dark location without the flash, resulting in camera shake. The use of a tripod or the flash is recommended (page 60). [Hand-held Twilight] in [Scene Selection] (page 40) and [Anti Motion Blur] (page 44) are also effective in reducing blur.

The exposure value is flashing on the LCD monitor.

- The subject is too bright or too dark for the metering range of the camera.

Viewing images

Images cannot be played back.

- The folder/file name has been changed on your computer.
- When an image file has been processed by a computer or when the image file was recorded using a model other than that of your camera, playback on your camera is not guaranteed.
- The camera is in USB mode. Delete the USB connection (page 148).
- Use "PMB" to play images stored on a computer with this camera.

Deleting/Editing images

The image cannot be deleted.

- Cancel the protection (page 91).

The image was deleted by mistake.

- Once you have deleted an image, you cannot restore it. We recommend that you protect images that you do not want to delete (page 91).

A DPOF mark cannot be put.

- You cannot mark DPOF marks on RAW images.

Computers

Not sure if the OS of the computer is compatible with the camera.

- Check "Recommended computer environment" (page 142).

The computer does not recognize the camera.

- Check that the camera is turned on.
- When the battery level is low, install the charged battery pack, or use the AC Adaptor (sold separately).
- Use the USB cable (supplied) for connection.
- Disconnect the USB cable, and connect it again firmly.
- Set [USB Connection] to [Mass Storage] (page 126).
- Disconnect all equipment other than the camera, the keyboard and the mouse from the USB terminals of your computer.
- Connect the camera directly to your computer without passing through a USB hub or other device.

Cannot copy images.

- Make the USB connection by properly connecting the camera with your computer (page 147).
- Follow the designated copy procedure for your OS.
- When you shoot images with a memory card formatted by a computer, you may not be able to copy the images to a computer. Shoot using a memory card formatted by your camera.

Cannot play back images on a computer.

- If you are using "PMB," refer to the "PMB Help."
- Consult the computer or software manufacturer.

The image and sound are interrupted by noise when viewing a movie on a computer.

- You are playing back the movie directly from the memory card. Import the movie to your computer using "PMB" and play it back.

After making a USB connection, "PMB" does not start automatically.

- Make the USB connection after the computer is turned on (page 147).

Memory card

Cannot insert a memory card.

- Insertion direction of the memory card is wrong. Insert it in the correct direction.

Cannot record on a memory card.

- The memory card is full. Delete unnecessary images (pages 27, 84).
- An unusable memory card is inserted.

Formatted the memory card by mistake.

- All the data on the memory card is deleted by formatting. You cannot restore it.

Printing

Cannot print images.

- RAW images cannot be printed. To print RAW images first, convert them to JPEG images using “Image Data Converter SR” on the supplied CD-ROM.

The color of the image is strange.

- When you print the images recorded in Adobe RGB mode using sRGB printers that are not compatible with Adobe RGB (DCF2.0/Exif2.21 or later), the images are printed at a lower saturation.

Images are printed with both edges cut off.

- Depending on your printer, the left, right, top, and bottom edges of the image may be cut off. Especially when you print an image shot with the aspect ratio set to [16:9], the lateral end of the image may be cut off.
- When printing images using your own printer, cancel the trimming or borderless settings. Consult the printer manufacturer as to whether the printer provides these functions or not.
- When having images printed at a photo printing service shop, ask the shop whether they can print the images without cutting off both edges.

Cannot print images with the date.

- Using “PMB,” you can print images with date.
- The camera does not have a feature for superimposing dates on images. However, because the images shot with the camera include information on the recording date, you can print images with the date superimposed if the printer or the software can recognize Exif information. For compatibility with Exif information, consult the manufacturer of the printer or the software.
- When you print images at a shop, images can be printed with the date if you ask them to do so.

Others

The lens gets fogged.

- Moisture condensation has occurred. Turn off the camera and leave it for about an hour before using it.

The message “Set Area/Date/Time.” appears when the camera is turned on.

- The camera has been left unused for sometime with a low battery or no battery pack. Charge the battery pack and set the date again (page 117). If the message appears every time you charge the battery pack, the internal rechargeable battery may be exhausted. Consult your Sony dealer or local authorized Sony service facility.

The number of recordable images does not decrease, or decreases two at a time.

- This is because the compression rate and the image size after compression change depending on the image when you shoot a JPEG image.

The setting is reset without the resetting operation.

- The battery pack was removed when the power switch was set to ON. When removing the battery pack, make sure the camera is turned off and the access lamp is not illuminated.

The camera does not work properly.

- Turn off the camera. Remove the battery pack and insert it again. If the camera is hot, remove the battery pack, and allow it to cool down before trying this corrective procedure.
- If an AC Adaptor (sold separately) is used, disconnect the power cord. Connect the power cord and turn on the camera again. If the camera does not work after doing these solutions, consult your Sony dealer or local authorized Sony service facility.

“--E-” is indicated on the screen.

- Remove the memory card, and insert it again. If this procedure does not turn off the indication, format the memory card (page 131).

Warning messages

If the following messages appear, follow the instructions below.

Incompatible battery. Use correct model.

- An incompatible battery pack is being used.

Set Area/Date/Time.

- Set the date and time. If you have not used the camera for a long time, charge the internal rechargeable battery.

Power insufficient.

- You tried to clean the image sensor (Cleaning Mode) when the battery level is insufficient. Charge the battery pack or use an AC Adaptor (sold separately).

Unable to use memory card. Format?

- The memory card was formatted on a computer and the file format was modified. Select [OK], then format the memory card. You can use the memory card again, however, all previous data in the memory card is erased. It may take some time to complete the format. If the message still appears, change the memory card.

Memory Card Error

- An incompatible memory card is inserted or the format has failed.

Reinsert memory card.

- The inserted memory card cannot be used in your camera.
- The memory card is damaged.
- The terminal section of the memory card is dirty.

This memory card may not be capable of recording and playing normally.

- The inserted memory card cannot be used in the camera.

Processing...

- Long exposure noise reduction will be done for the same amount of time that the shutter was open. You cannot do any further shooting during this reduction process. You can disable the long exposure noise reduction function.

Unable to display.

- Images recorded with other cameras or images modified with a computer may not be able to be displayed.

Cannot recognize lens. Attach it properly.

- The lens is not attached properly, or the lens is not attached. If the message appears when a lens is attached, reattach the lens. If the message appears frequently, check whether the contacts of the lens and camera are clean or not.
- When attaching the camera to an astronomical telescope or something similar, set [Release w/oLens] to [Enable] (page 105).

- The SteadyShot function does not work. You can continue to shoot but the SteadyShot function will not work. Turn the camera off and on. If this icon does not disappear, consult your Sony dealer or local authorized Sony service facility.

Contains no still images.**Contains no movies.**

- There is no image on the memory card.

Image protected

- You tried to delete protected images.

Unable to print.

- You tried to mark RAW images with a DPOF mark.

Camera overheating. Allow it to cool.

- The camera has become hot because you have been shooting continuously. Turn the power off. Cool the camera and wait until the camera is ready to shoot again.



- You have been recording images for a long time, the camera temperature has risen. Stop recording images until the camera cools.



- The number of images exceeds that for which date management in a database file by the camera is possible.



- Unable to register to the database file. Import all the images to a computer using “PMB” and recover the memory card.

Camera Error

- Turn the power off, remove the battery pack, then re-insert it. If the message appears frequently, consult your Sony dealer or local authorized Sony service facility.

Image Database File error.

- There is something wrong occurred in the Image Database File. Select [Setup] → [Recover Image DB] → [OK].

Image Database File error. Recover?

- You cannot record or play back movies because the Image Database File is damaged. Follow the on-screen instructions to recover data.

Unable to magnify.**Unable to rotate image.**

- Images recorded with other cameras may not be enlarged or rotated.

No images selected.

- You attempted to print without specifying images.

No images changed.

- You attempted to execute DPOF without specifying images.

Cannot create more folders.

- The folder with a name beginning with “999” exists on the memory card. You cannot create any folders if this is the case.

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Using the camera abroad

You can use the battery charger (supplied), and the AC-PW20 AC Adaptor (sold separately) in any country or region where the power supply is within 100 V to 240 V AC, 50 Hz/60 Hz.

Note

- An electronic voltage transformer is unnecessary and its use may cause a malfunction.

On TV color systems

The camera automatically detects the color system to match that of the connected video device.

NTSC system (1080 60i)

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system (1080 50i)

Australia, Austria, Belgium, China, Croatia, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Indonesia, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Rumania, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, Viet Nam, etc.

PAL-M system (1080 50i)

Brazil

PAL-N system (1080 50i)

Argentina, Paraguay, Uruguay

SECAM system (1080 50i)

Bulgaria, France, Greece, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.

Memory card




You can use following memory cards with this camera: “Memory Stick PRO Duo” media, “Memory Stick PRO-HG Duo” media, SD memory card, SDHC memory card, and SDXC memory card. You cannot use a MultiMedia Card.

Notes

- Memory card formatted with a computer are not guaranteed to operate with the camera.
- Data read/write speeds differ depending on the combination of the memory card and the equipment used.
- Do not remove the memory card while reading or writing data.
- Data may be corrupted in the following cases:
 - When the memory card is removed or the camera is turned off during a read or write operation
 - When the memory card is used in locations subject to static electricity or electrical noise
- We recommend backing up important data, such as to a hard disk of a computer.
- Do not attach a label on the memory card itself nor on a memory card adaptor.
- Do not touch the terminal section of the memory card with your hand or a metal object.
- Do not strike, bend or drop the memory card.
- Do not disassemble or modify the memory card.
- Do not expose the memory card to water.
- Do not leave the memory card within the reach of small children. They might accidentally swallow it.
- The memory card may be hot just after it has been used for a long time. Be careful when you handle it.
- Do not use or store the memory card under the following conditions:
 - High temperature locations such as the hot interior of a car parked in direct sunlight
 - Locations exposed to direct sunlight
 - Humid locations or locations with corrosive substances present
- Images recorded on an SDXC memory card cannot be imported to or played on computers or AV devices that are not compatible with exFAT. Make sure that the device is compatible with exFAT before connecting it to the camera. If you connect your camera to an incompatible device, you may be prompted to format the card. Never format the card in response to this prompt, as doing so will erase all data on the card. (exFAT is the file system used on SDXC memory cards.)

“Memory Stick” media

The types of “Memory Stick” media that can be used with the camera are listed in the table below. However, proper operation cannot be guaranteed for all “Memory Stick” media functions.

“Memory Stick PRO Duo” media *1*2*3	Available with your camera	
“Memory Stick PRO-HG Duo” media *1*2		
“Memory Stick Duo” media	Unavailable with your camera	
“Memory Stick” media and “Memory Stick PRO” media	Unavailable with your camera	

*1 This is equipped with MagicGate function. MagicGate is copyright protection technology that uses encryption technology. Data recording/playback that requires MagicGate functions cannot be performed with this camera.


^{*2} Supports high-speed data transfer using a parallel interface.

^{*3} When using “Memory Stick PRO Duo” media to record movies, only those marked with Mark2 can be used.

Notes on using “Memory Stick Micro” media (sold separately)

- This product is compatible with “Memory Stick Micro” media (“M2”). “M2” is an abbreviation for “Memory Stick Micro” media.
- To use a “Memory Stick Micro” media with the camera, be sure to insert the “Memory Stick Micro” media into an “M2” Adaptor as large as of Duo size. If you insert a “Memory Stick Micro” media into the camera without an “M2” Adaptor as large as of Duo size, you might not be able to remove it from the camera.
- Do not leave the “Memory Stick Micro” media within the reach of small children. They might accidentally swallow it.

“InfoLITHIUM” battery pack

Your camera operates only with an “InfoLITHIUM” battery pack NP-FW50. You cannot use any other battery packs. “InfoLITHIUM” W series battery packs have the  mark.

An “InfoLITHIUM” battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions with the camera.

The “InfoLITHIUM” battery pack calculates the power consumption according to the operating conditions of your camera, and displays the remaining battery time in percentages.

On charging the battery pack

We recommend charging the battery pack in an ambient temperature of between 10 °C to 30 °C (50 °F to 86 °F). The battery pack may not be effectively charged in temperatures outside this range.

Effective use of the battery pack

- Battery performance decreases in low temperature surroundings. So in cold places, the operational time of the battery pack is shorter. To ensure longer battery pack use, we recommend putting the battery pack in a pocket close to your body to warm it up, and insert it in the camera immediately before you start shooting.
- The battery pack will run out quickly if you use the flash or record movies frequently.
- We recommend having spare battery packs handy and making trial shots before taking the actual shots.
- Do not expose the battery pack to water. The battery pack is not water-resistant.
- Do not leave the battery pack in extremely hot places, such as in a car or under direct sunlight.

On the remaining battery time indicator

When the power goes off even though the remaining battery time indicator indicates that the battery pack has enough power to operate, charge the battery pack again. Remaining battery time will be indicated correctly. Note, however, that the battery indication will not be restored if it is used in high temperatures for a long time, or if left after being charged, or when the battery pack is frequently used. Use the remaining battery indication as a rough guide only.

How to store the battery pack

- Fully discharge the battery pack before storing and store it in a cool, dry place. To maintain the battery pack’s function, charge the battery pack and then fully discharge it on the camera at least once a year.
- To use the battery pack up, leave the camera in slide show playback mode until the power goes off.
- To prevent staining the terminal, short-circuiting, etc., be sure to use a plastic bag to keep away from metal materials when carrying or storing the battery pack.

On battery life

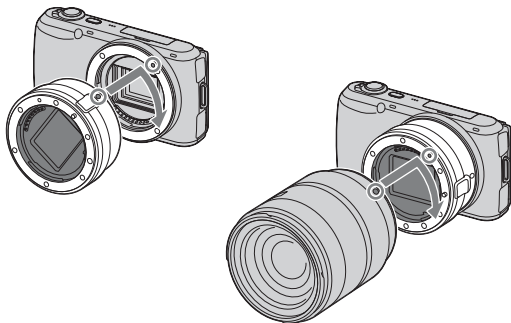
- The battery life is limited. Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace it with a new one.
- The battery life varies according to how it is stored and the operating conditions and environment in which each battery pack is used.

Battery charger

- Only NP-FW type battery packs (and no others) can be charged in the battery charger (supplied). Batteries other than the specified kind may leak, overheat, or explode if you attempt to charge them, posing a risk of injury from electrocution and burns.
- Remove the charged battery pack from the battery charger. If you leave the charged battery pack in the charger, battery life may be shortened.
- The CHARGE lamp of the supplied battery charger flashes in either way:
Fast flashing: Turns the light on and off repeatedly at the interval of 0.15 seconds.
Slow flashing: Turns the light on and off repeatedly at the interval of 1.5 seconds.
- When the CHARGE lamp flashes fast, remove the battery pack being charged, and then insert the same battery pack into the battery charger securely again. When the CHARGE lamp flashes fast again, this may indicate a battery error or that a battery pack other than the specified type has been inserted. Check that the battery pack is the specified type. If the battery pack is the specified type, remove the battery pack, replace it with a new one or another one and check if the battery charger operates correctly. If the battery charger operates correctly, a battery error may have occurred.
- When the CHARGE lamp flashes slowly, it indicates that the battery charger stops charging temporarily on standby. The battery charger stops charging and enters the standby status automatically when the temperature is outside of the recommended operating temperature. When the temperature gets back within the appropriate range, the battery charger resumes charging and the CHARGE lamp lights up again. We recommend charging the battery pack in an ambient temperature of between 10 °C to 30 °C (50 °F to 86 °F).
- If the battery charger is dirty, batteries may not be charged correctly. Clean the battery charger with dry cloth, etc.

Mount Adaptor

Using the Mount Adaptor LA-EA1 (sold separately), you can attach an A-mount lens (sold separately) to your camera. For details, refer to the operating instructions supplied with the Mount Adaptor.



Notes

- You may not be able to use the Mount Adaptor with certain lenses. Consult your Sony dealer or local authorized Sony service facility on compatible lenses.
- The continuous shooting speed of still images will be slower.

Autofocus function with A-mount lenses

Upgrading Mount Adaptor LA-EA1 (sold separately) makes autofocus (Single-shot AF) possible when an A-mount SAM or SSM lens is attached to the camera. You can also use autofocus (Single-shot AF) in movie recording mode by pressing the shutter button halfway down.

Notes

- You cannot use the AF illuminator when using an A-mount lens.
- The autofocus speed will be slower compared to when an E-mount lens is attached. (When an A-mount lens is attached, the autofocus speed will be about 2 seconds to 7 seconds, when shooting under Sony measurement condition. The speed may vary depending on the subject, ambient light, etc.)
- The sound of the lens and the camera in operation may be recorded during movie recording. You can avoid this by selecting [Menu] → [Setup] → [Movie Audio Rec] → [Off].
- It may take a long time or may be difficult for the camera to focus, depending on the lens used or the subject.

Cleaning

Cleaning the camera

- Do not touch the inside of the camera, such as lens contacts. Blow away dust from inside the mount using a commercially available blower*. For details on cleaning the image sensor, see page 127.
 - * Do not use a spray blower. Using one may cause a malfunction.
- Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface with a dry cloth. Do not use the following as they may damage the finish or the casing.
 - Chemical products such as thinner, benzene, alcohol, disposable cloths, insect repellent, sunscreen or insecticide, etc.
 - Do not touch the camera with the above on your hand.
 - Do not leave the camera in contact with rubber or vinyl for a long time.

Cleaning the lens

- Do not use a cleaning solution containing organic solvents, such as thinner, or benzene.
- When cleaning the lens surface, remove dust using a commercially available blower. In case of dust that sticks to the surface, wipe it off with a soft cloth or tissue paper slightly moistened with lens cleaning solution. Wipe in a spiral pattern from the center to the outside. Do not spray lens cleaning solution directly onto the lens surface.

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